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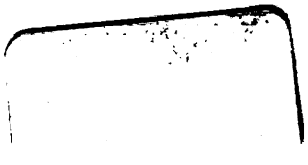

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ORIGINAL ARTICLES

Enterectomy.—End to End Anastomosis.—Cholecyst-Enterostomy, With Murphy Button.

BY W. B. ROGERS, M.D.,

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Read before the Southern Surgical and Gynecological Association, New Orleans, November 15, 1893.

CASE 1.—RESECTION OF SMALL INTESTINE FOR GANGRENE—END TO END ANASTOMOSIS WITH MURPHY BUTTON.

Thursday, October 12, 1893, Robert Hannon, male, 20 years of age, jumped from a wagon to the ground. The jar caused a descent of a right inguinal hernia to which he had been subject for several years. He had therefore been able to reduce the hernia, whenever it appeared without the aid of a physician. On this occasion, however, he failed, and called his physician, who, without the aid of an anesthetic, and with very little effort by taxis, succeeded in pressing the hernia apparently back into the abdomen. The patient, however, continued to complain of pain extending from the inguinal canal towards the umbilicus. There was a slight fullness or induration at the site of the internal ring, but apparently within the abdominal cavity. The patient's general condition was nearly normal. During the next two days calomel, salt, and oil failed to act on the bowels. So also did repeated enemas of large quantities of water fail to bring away fecal matter. The abdomen was gradually becoming distended and tympanitic, and when I saw him two days after the occurrence of the hernia I found the belly greatly swollen, tympanitic, with marked tenderness from the umbilicus down to the inguinal canal on the right side. He was vomiting a dirty greenish looking fluid with distinctly fecal odor. Pulse and temperature about normal. I invaginated the scrotum with my finger, carrying it well up into the inguinal canal, but was unable to feel the hernia there, though just above Poupart's ligament, and just under the internal ring, there remained a small induration, indistinctly felt by reason of distension of the abdomen. The conclusion was that the hernia had either been reduced in its sac, or else that both had been well pressed up the inguinal canal, and between the peritoneum and wall proper. An operation was at once decided upon. An incision three inches long was made over the site of the appendix. At least a pint of blood-stained water escaped from the peritoneal cavity. Inserting my two fingers I detected a constriction at the internal ring, and succeeded in drawing out eight inches of intestines. This I brought through the abdominal wound to the outer surface of the abdomen. It was so congested that at each end of the eight inches, where the encircling band had constricted it, that the peritoneum had given away, and gangrene was imminent. I immediately cut out ten inches of intestine and made an end to end approximation by means of Murphy's button. All hemorrhage was arrested; the abdomen cleansed, and drainage tube so placed as to reach the bottom of the pelvis The wound was closed with silk suture; the patient taken off the table with a pulse of 80. The reaction that night was pronounced, temperature reaching 103°, but fell promptly by morning to 99.5°. His pulse from that time on did not go above 86; his temperature ranging under 100. Fifteen grains of calomel were given the night after the operation; ten grains were repeated the next day, and by means of oft-repeated large enemas the intestinal canal was thoroughly emptied of all gas and fecal matter, at the end of sixty hours. The patient's general condition was good all the time after the operation, and he expressed himself ready at any time to get out of bed and go to work. Thirty two days have now elapsed and his bowels are acting every day without medicine. His appetite is good and he is eating ordinary food. The drainage tube was removed on the third day. The button was passed at the end of the seventh day. (The patient was then presented for examination by the Fellows of the Association).

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CASE 2.—DISTENDED GALL BLADDER.—CHOLECYST-ENTEROSTOMY, BY MURPHY'S BUTTON.

Capt. Elliott, 53 years of age; of sedentary habits, and suffered more or less with dyspepsia for years. Six months before he became very much jaundiced. The liver was greatly enlarged. He had no fever; pulse feeble at 60 beats per minute; was emaciated to almost the last degree. There was great pain over the pyloric region, with tenderness all along the liver, which projected in a uniform line three inches and a half below the border of the ribs. At the anterior axillary line there was a distinct projection downwards from the liver reaching the anterior superior spinous process of the ilium. The case had been diagnosed by several physicians as cancer of the liver. While the symptoms pointed strongly to such a condition, I was not willing to consent to the diagnosis without an operation. This growth had been *so rapid;* had *over-reached* the rapidity of growth so characteristic of malignancy. I detected what I thought to be the rounded end of the gall bladder projecting at the lowest point of the enlarged liver. An incision was made two and a half inches below the anterior extremity of the ninth rib extending downwards three inches. Upon entering the abdomen I found the liver greatly enlarged, very much congested; it was blue and projecting at its lowest point was the gall bladder. I succeeded in bringing the fundus of the gall bladder in the incision, and opening it, evacuated fourteen ounces of bile. With a probe introduced into the gall-bladder, and my two fingers in the abdominal cavity, I was enabled to follow the cystic to the common duct, but no further. I examined with my two fingers the under surfaces of the liver, and found no signs of malignant disease. I tested the common duct to the duodenum, and could find neither gall stone or malignant growth, but the liver was so swollen that a stone in the common duct might easily have escaped touch. The condition of the patient at this time admonished a rapid completion of the operation so that I did not attempt a cholecyst-enterostomy, but sutured the gall bladder to the anterior wall of the abdomen, hoping that under the use of liberal douches of hot water I might succeed in clearing out the common duct. He reacted slowly after the operation, but in a few days was out of all danger. The hot water douching was tried, and every effort made to pass a probe along the common duct without success. At the end of three weeks he had gained some in strength, his appetite was good, and his color had nearly resumed the natural. The liver had receded beneath the ribs. In this state I allowed him to return to his home to recuperate before I operated for cholecyst-enterostomy.

SECOND OPERATION.—Patient returned after three weeks with general condition very little improved, but the absence of bile from his bowel seemed to have prevented his gaining in flesh. The prospect of improvement in the absence of bile was so unpromising that, although his condition was bad, in consultation it was deemed advisable to connect the gall bladder and the bowel. At the time of this operation I again explored the track of the common duct and felt two distinct enlargements, believed to be calculi. The case was not one to waste time in efforts at removal of calculi from the common duct, so I hastily did the cholecyst enterostomy and used the Murphy button. The case progressed favorably, the button coming away from the fistula in the abdomen on the seventh day. We had much trouble in keeping the food from escaping via the gall bladdder. Most of the bile passed into the bowel. His condition for ten days was precarious indeed, but he slowly improved, and he went to his home at the end of four weeks. There he gained about fifteen pounds in flesh and was slowly but steadily improving until three months after the operation, when he was taken with diarrhea, soon becoming dysenteric, and he died on the third day.

The operation, however, of gastro enterostomy with the Murphy button proved entirely satisfactory, and as far as an operation was concerned is to be regarded as a success in this case.

Relapsing Appendicitis, With Report of Case.

BY DR. J. W. YOUNG, BLOOMFIELD, IOWA.

MR. PRESIDENT AND GENTLEMEN OF THE ASSOCIATION.—Dr. Morris H. Richardson, of Boston, Mass., in a recent article in the *American Journal of Medical Sciences*, on Appendicitis, says:

"The most positive assertions in connection with the treatment of appendicitis have been made as a rule by those with the most limited experience."

I am inclined to the opinion that this statement is correct, yet every general practitioner is bound to be called to see a number of these cases and watch the result of his own treatment; besides medical literature is teeming with reports of appendicitis cases treated in every conceivable manner with various results; and consequently each must and does form opinions; and at these meetings is the proper place to ventilate such opinions. If we are wrong, free discussion will possibly set us right.

I am now of opinion that many cases treated by myself and others for inflammation of bowels during my early practice was caused by appendicitis and perforation of appendix, and the true origin of the deadly malady, local and diffused peritonitis, was not then suspected. While the number of my cases has been small, my operations few and my success fair, I feel that it is the duty of every brother in the profession to donate his mite "to build up solid truth for the treatment of all diseased conditions."

On the 28th day of December, 1892 I was called to see Miss Maud M., aged 16, who had always enjoyed excellent health in every respect. She had a chill

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during the previous night, followed by a fever and for some hours before my call had been suffering greatly with pain and cramps in right lower corner or abdomen. Temperature, 101, pulse 105, vomiting occasionally, and seemingly in great distress. Abdomen was not tympanitic, yet very tender over cecum, with a sensation on pressure of tumefaction, extending nearly to the umbilicus, and from two inches below the border of liver to Pouparts ligament.

Other parts of the abdomen seemed normal.

I diagnosed appendicitis and told the mother that her daughter had inflammation of a small, hollow tube, usually three inches long, about the size of a lead pencil, and attached to the lower end of the big bowel, but of no use in the make up of a human being that I knew of except to cause suffering. That seeds of fruit and small concretions sometimes lodged in this tube and caused such conditions from which her daughter then suffered. That exposure to cold and imprudence in eating sometimes caused this trouble.

TREATMENT.—Gave sub nit. of bismuth after each effort at vomiting, and injected a ¼ gr. of morphine under the skin. Ordered turpentine applied over the abdomen, every six hours with constant applications of warm, wet flannel cloths. One flannel kept in steamer over pot of boiling water, while the other was over abdomen and changed them every quarter hour till pain was relieved. While lying over a bed pan, an enema of soap suds was given, as soon as morphia and hot cloths had quieted pain somewhat. Some gas and fecal matter passed and patient expressed herself as feeling much relieved. Ordered enemas to be given daily or twice daily if in pain. No cathartics of any kind were given. Vomited occasionally for three or four days. No more morphia was given and no medicine except bismuth. When the hot flannels were neglected the pain returned and upon their employment the pain subsided. This treatment was continued about eight days, at which time patient was greatly improved and well in two weeks. Only liquid food was given at first and then other foods were gradually introduced.

The next attack occurred in February, after attending some entertainment at night. Chills, fever, pains and griping, with same treatment and same results.

Other attacks took place in from three to four weeks. Often immediately after menstruation. Treatment the same and results the same until the sixth attack was safely passed.

At this time patient had been greatly reduced in flesh and strength and the seventh attack was brought about after walking about a fourth of a mile when seemingly her appendicitic disease was well. Upon examining diseased region between the attacks, I sometimes persuaded myself, I could feel an enlarged appendix through the walls of the abdomen but was never absolutely certain that I did. When the attack was on the whole region felt stiff and doughy, could never discover anything out of normal per vaginam or rectum. I had expected every attack to be the last but at this time I informed the parents that if she had another I would not be doing my duty to my patient unless I should open the abdomen and remove the offending organ. I explained the situation to patient and parents, also the dangers of an operation, and was surprised to find that all were ready to have the trouble annihilated at once, and the young lady remarked "that it would be better to die in an operation than to live as she had done." However, when I began to make preparations, the mother said, wait for one more attack and as it was about time for menstruation I thought it best to wait. Menstruation came and the attack came just as promptly and with more than usual violence. But with the same treatment subsided just the same as others did. You ask, did I operate in the height of the attack? I answer, no. I waited till the inflammation had subsided and then operated. I fully expected to find some foreign body in the appendix, as the first cause of this inflammation.

On the 9th day of November 1898, with the assistance of my son, Dr. H. C. Young, and Drs. Greenleaf, Duffield and Jay, the operation was performed. I made the usual incision from the middle of Pouparts ligament upward over the McBurney point. Found everything adherent—separated adhesions gently—found appendix pointing inward, and fast in all its length to the posterior peritoneum. Carefully loosened its adhesions and brought it out of the opening. Appendix was ¾ inch in diameter and three inches long, very firm, no perforation, and no pus in appendix or abdomen. Ligated appendix at junction with cecum, and amputated. Cauterized stump with carbolic acid, carefully secured all bleeding points, closed the abdomen in usual manner with silk worm gut sutures. Usual dressing and allowed stitches to remain in fourteen days.

Highest temperature at any time 99.5 degrees. Recovery uneventful and is now able to do light work about the house.

The appendix was split longitudinally and the lumen was at junction with cecum less than a line in diameter, and for one and a half inches the cavity at its largest diameter was at least one half inch, containing only mucus and no foreign body. The mucus membrane and all tissues of this appendix had some of the general appearance of scar tissue and by adhesions and thickening of walls bore evidence of the repeated inflammations. I am of the opinion that the opening into the appendix in this case had always been contracted; that the fluids from cecum would enter the appendix cavity and on account of the difficulty of exit would remain there until fermentation, and the formation of ptomaines became so abundant that inflammatory action, first in the mucus membrane, then in the adjacent tissues, to such an extent that local peritonitis spread to some of the adjoining organs. It might be that a microbe, similar in some respects to the streptococcus which produces erysipelas, had entered the tissues, and multiplying rapidly, producing its own ptomaines, which destroyed the multitude thus formed, then inflamma-

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tory action subsiding, as it does in erysipelas. We will leave this microbe for some microscopist to discover and describe.

During the last two years, have had in my own practice, or seen in consultation, eleven cases of ap pendicitis. Three of these cases have operated on. All are now alive, except in the case of one, in which perforation took place, producing local abscess in the peritoneum, hedged in by extensive adhesions. This case was seen by myself in consultation twenty days after the attack commenced. Half a gallon of pus and fecal matter was evacuated by a free opening near Pouparts ligament. Cavity gently washed with warm boracic acid solution, no appendix could be discovered, but an opening large enough to admit the point of the index finger was found, through which gas and fecal matter escaped. The immense tympanitic condition subsided, pain was relieved, bowels moved naturally and it was thought for a few days this patient would recover, patient failed in strength gradually and died of exhaustion on the thirtieth day after attack, but had no general peritonitis.

One of the cases, that of a young man, aged 19, had violent appendicitis, followed by diffused peritonitis. We kept everything ready for laparotomy one week, but finally the inflammation subsided and the patient got on his feet again. This patient had two other attacks, all within three months in other towns in Iowa, from which he recovered and for one year and a half from last attack has been able to attend to his business, that of a drug clerk without any sign of a relapse.

Last spring, I was called in consultation to see a young man in a neighboring town, suffering with a violent attack of appendicitis. Called in fact to open his abdomen and remove appendix, and cleanse peritoneum, as we supposed there was perforation and discharge of bowel contents in the peritoneum. Found three physicians in attendance and the patient at this time (three days from initial symptoms) with general peritonitis. Temperature scarcely normal, pulse 120, pinched features and anxious expression. Great tympanitis, but easier than he had been, on account of a large hypodermic injection of morphine before my arrival. The general verdict was that he would die. I was requested to operate. I asked one of the doctors how long he would live if we should make a laparotomy. Said he, the patient will die in less than two hours. All gave the same opinion. I suggested to give him an enema of warm soap suds, patient passed gas and some watery, green fluid. Had them renew the hot flannel pack, with turpentine over the bowels. Gave him no medicine except enough morphine to relieve pain. In due time he recovered and is now a lively dry goods clerk in Coatesville, Mo.

The other cases I attended or saw in consultation had but one attack, with recovery in all up to the present time.

My treatment has always been the same, no cathartics or other medicines, except opium in some form and but little of that. Hot applications over abdomen and enemas of soap suds. I will not say there is no condition in which I would not open the abdomen during the height of an attack. If I am sure there is a large amount of pus, either encysted by adhesions or free in the abdomen I think it is best to evacuate and cleanse the peritoneum at once. Dr. Christian Fenger, of Chicago, always operates if he has a violent case, in the midst of an attack, but his record shows a high rate of mortality. Dr. Joseph Price, of Philadelphia, says operate at once in all violent cases and has a much better showing. Dr. Price must have greater skill in cleansing the peritoneum, as his losses are few. I would say, if I was sure, from the extent of shock and other signs, such as we find in gunshot wounds of the abdomen in which the bowel contents are being poured out, operate at once, if the contents of the cecum was escaping from a perforation, as it sometimes does, nothing else is left to do. In general I shall adhere to my present line of treatment of appendicitis in all its forms, while my per cent of recoveries remain as good as they now appear to be. Rest, moist heat, enemas and opium but will operate when a large amount of pus is known to exist, or free escape of contents of bowels through a perforation.

It will no doubt be amusing to some of you gentlemen who operate in a well equipped hospitals, with a corps of skilled assistants and trained nurses, to know just how a country doctor performs laparotomy at a country farm house, with pick-up assistants and train your-own nurses. You must understand I am not a specialist, but do a little of any kind of surgery, that presents. I will give you a few of the details of the operation, in the case presented. My son and myself do business together and have the ordinary equipments of country surgeons. Two days before the operation I took a three gallon tin bucket with lid and drove six miles to the farm house of my patient. Ordered the carpets and all furniture removed from their so-called parlor, walls and ceiling well brushed down and floor scrubbed and room well aired. Had an operating table made of deal boards. Ordered a folding bed, which was in the house prepared and put in one corner of this room, ready for patient. Had them hunt up some empty fruit jars for hot water bottles, I shaved the abdomen and pubes of patient; ordered the mother to give the daughter as good a bath as possible and make her as clean as ever she was in her life. Patient to have next day no food after breakfast, except a little broth at noon meal. No supper that evening and no breakfast on the morning of operation. But a good dose of castor oil with turpentine at 4 P M. next day. Ordered mother to rub into a folded wet towel strong soap and place it over the daughter's abdomen and have her wear it all night, and until we came next morning to operate. Ordered my tin bucket filled with pure strained water and boiled and set by, to cool the evening before the operation. We invited the three physicians named to be present at 10 A.M. and assist. My son and myself with our outfit

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arrived one hour earlier than the rest. Set up operating table in good light with folded comforter, and clean sheet over all, common dining table was placed convenient with clean sheet over it. Our other three gallon tin bucket was placed on the kitchen stove nearly full of clean water with a dozen clean towels in the water, also, three dozen napkins of cheese cloth, each a foot square, to be used instead of sponges. These last had a safety pin put through all, to prevent them getting scattered. Instrument, silk, needles, glass drainage tubes were placed in square tin pans, alongside of the tin bucket of towels and napkins, and boiled for nearly an hour. Our flushing apparatus was sterilized in the same manner. Of course, my son and myself had rendered ourselves as aseptic as possible by bathing and clean clothes before leaving home. When the doctors arrived they were asked to take off their coats and scrub hands all around. In due time, instruments and the usual dressings were prepared and arranged on the table in about as good shape as you will find in any operating amphitheatre. And when everything was ready the patient was given chloroform and carried to and placed on the table. The cheese cloth napkins were wrung out of the hot water by clean hands and were used as sponges to cover the edges of incision and to hold back intestines and also to absorb all blood in the peritoneum. After patient was placed on the table the soap towel was removed and abdomen washed with warm water, then with a solution of bichloride of mercury, one to five hundred, which solution was also used as last cleansing for my hands. The operation was completed without accident and with coolness and some of my associates, who had seen our best operators at work were surprised that everything should be in such good order in a farm house operation. After the usual dressings were all on, the folding bed was let down, the patient was placed on it in good condition, with my fruit jars of warm water around her and was soon comfortable, except vomiting occasionally. I drove out each night for four nights and slept in the house, returning to office in town for days business, each day. Trained mother and older daughters so that my nurses were but little inferior to those you find in the best hospitals.

Longevity and Ovariotomy.—Dr. Harris, of Philadelphia, has written to Sir Spencer Wells to inform him that there is living, and in excellent health, an unmarried lady, eighty-one years of age, for whom the late Dr. John L. Atlee peformed ovariotomy in June, 1843, more than fifty years ago. Dr. Harris asked if this case can be paralleled in England. This was Dr. Atlee's first ovariotomy. He had 80 cases; he operated on 7 in the year he became eigthy-four years of age; he performed tracheotomy when nearly eighty-five, and died when nearly eighty-six years of age. We are indebted to Sir Spencer Wells for the intersting facts furnished by Dr. Harris—*Brit. Med. Journ.*

EDITORIALS

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Bloodvessel-Pain.

Many pains that are otherwise unexplainable must be attributed to changes in the walls of bloodvessels. While sensible nerve fibres have not been demonstrated in the tissues of bloodvessels, Thoma has found Pacini's corpuscles in the adventitiva of the larger vessels. In cases where after a continued headache apoplexy takes place and in which upon autopsy a thrombus is found in a dilated artery the pain cannot be explained by the local anemia caused by the obstruction, as the brain-substance is insensible; nor can the pain be explained by a pressure upon the membranes, in consequence of a disturbed circulation, since the circle of Willis furnishes an abundant collateral circulation and outlet for any locally increased blood supply. The pain must therefore be looked for in the bloodvessels These pains according to Nothnagel, serve to differentiate between hemorrhage and thrombotic softening. Severe headaches without any signs of intense arterial congestion being a sign of thrombotic softening in consequence of a diseased artery. Severe pain also takes place in embolism where the embolus becomes organized and grows together with the wall of the bloodvessel. Vague pains in the back and belly, which are often diagnosed as rheumatism or neuralgia may be due to arteriosclerosis of the aorta or iliac arteries. The fixed

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pain of aneurisms long before these can be diagnosed by physical signs are not due to pressure upon surrounding nerves but must be attributed to the blood-vessel itself and therefore serves as a sign for the diagnosis of aneurism. Great stress is to be laid upon fixed pain by the side of the sternum in the early diagnosis of aneurism of the thoracic aorta.

A New Treatment of Syphilis.

A commonly accepted theory of the day in regard to immunity seems to rest on the fact that micro-organisms produce not only substances which act injuriously upon the system of their host, but also certain products which are toxic to themselves, and which are able to render the soil in which they grow immune against new infection by the same microbe (*Therap. Gazette*). The immunizing substance is found in the blood and tissues, but in some instances, at least, is excreted by the kidneys. Thus it has been shown by Bouchard that during typhoid fever there is a certain immunizing substance found in the urine.

In the clinical history of syphilis there are found strong reasons for believing that a similar substance may be carried either to the child through the mother's blood, or to the mother from the child infected by the father. This filtration of immunizing substance was known to Jenner. He observed that the children of mothers who had been successfully vaccinated during pregnancy were immune against vaccination. This fact has been confirmed by many other observers, and was experimentally proved on young lambs by Rickert

Profeta showed that an apparently healthy child born of a syphilitic mother could not acquire syphilis from the lesions of the mother. Colles and Baumes observed, *vice versa*, that a syphilitic child born of an apparently sound mother could not convey the disease to her.

Besnier and Doyon explain on a somewhat different application of the same theory the escape of the husband, for instance, who is living in intimate relations with a wife profoundly infected with lepra.

Bonaduce holds that, particularly in syphilis, and consequently in other bacterial diseases, immunity by filtration of protective serum through the placenta would be conveyed far more frequently than is the case were it not that through hemorrhages or traumatisms the indirect communication between the maternal and fetal blood is made direct, and not only the immunizing substance, but the active living micro-organisms are carried from the diseased to the healthy being, and thus, in place of protection against syphilis, syphilis itself is implanted.

When the virus of syphilis has once entered the fetus it finds every condition favorable to its development, and it is prone to manifest itself in a severe form. In consequence there is a large production of the immunizing substance which is filtered through the placenta.

This filtration of immunizing substances has been carried on experimentally in the case of diseases the micro-organisms of which have been isolated and cultivated. This, however, is impossible with syphilis, since its specific microbe has not yet been found, although no one doubts that it is an infectious disease and conforms to the laws of maladies of this type. Hence there is every reason to believe that there is an antitoxine produced by the microbe, which, for instance conveys immunity through life to those who once have had syphilis.

Conaduce states that in consequence of this antitoxine the infected organism is so altered in its bio chemical relations that it becomes refractory to further infection on the part of the specific microbe. Hence it seems reasonable to suppose that after the contagious secondary period is past there will be found in the blood and fluids of the body those chemical substances which convey immunity. It is well known that the quantity of antitoxine required to convey immunity is extremely minute; this has been clearly shown in experimental work.

The difficulty in the practical application of these facts lies in determining the exact period in which this antitoxine is found most abundantly in the circulation. Moreover, the serum of the infected organism contains, in addition to immunizing substances, certain poisonous compounds which act injuriously upon the tissues, lessening the resistance, and thus encouraging proliferation of micro-organisms. Bonaduce holds that if it were possible to accomplish artificially what nature does in the case of the mother,—that is, immunizing against syphilis, in accordance with Colles's law,—the Gordian knot of syphilitic therapeutics would be cut. Since the kidneys are functionless in intrauterine life, and since the micro organisms of syphilis exhibit special virulence when they attack the fetus, there should be in the circulation of the child at birth both immunizing substances and toxic products in unusual concentration.

To separate these from each other heat may be employed, since it is well known that the toxines are destroyed while the antitoxines remain intact. Gamaleia, Arnaud, and others have shown this in the case of other microbes.

On the basis of these considerations Bonaduce (*Monatshefte f. Prak. Derm.* Bd. xvii., No 3) has conducted a clinical study. Blood was drawn from three children born with all the characteristics of hereditary syphilis. This was allowed to stand for a day on ice, and from it thirty-five cubic centimetres of serum were obtained, to which one hundred cubic centimetres of sterilized water were added. This mixture was heated for ten minutes to 100° C, and was filtered.

A patient, thirty-two years of age, who had exhibited for eighteen days a characteristic chancre in the coronary sulcus, and whose inguinal glands were typically enlarged, received injections of this serum in the subcutaneous cellular tissue. These were conducted with all aseptic and antiseptic precaution, and the injection fluid was kept aseptic. There was no inflammatory

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reaction excited. In all, twelve injections were given in twenty-four days; about ten cubic centimetres were administered at each injection.

During this treatment the glandular enlargements subsided and the ulcer grew steadily better, although no local taeatment was employed. Affer thirty-five days the ulcer was completely healed and the inguinal adenitis was markedly lessened. The treatment was begun the 13th of November, 1892, and at the time of the report (the 23rd of June, 1893) the patient was well and on the most minute search showed absolutely no signs of syphilis.

It is suggested that blood may be used from the placenta of a syphilitic child, or may be taken from individuals who are at the height of secondary syphilis, but in all cases the serum should be employed with the most minute antiseptic and aseptic precautions.

In Italy, Tommasoli has some time since proposed a method of hemo-therapeutics in the treatment of syphilis. This consists in the injection of serum derived from the blood of lambs or calves, the practice being based on the theory that since these animals are immune to the disease, their body fluids must contain some immunizing substance.

Fournier has obtained some results from injections of the blood serum of the dog and horse, and Pellizzari has expressed the hope that by the injection of the blood serum of syphilitics who are in the transitional period between the secondary and tertiary stages of development all secondary lesions may be prevented in those who are suffering from chancre.

The idea of the treatment of syphilis by injections with blood from animals naturally immune, or by injections of serum free of its toxic properties and supposed to contain the antitoxine of syphilis, introduces an absolutely novel feature in the therapeutics of syphilis. Already numbers of successful cases have been reported. Experience has shown, however, that little confidence can be placed in this. The case contributed by Bonaduce is not conclusive, since the diagnosis was by no means established in the first instance.

The treatment seems rational, has been evolved from the result of the thoroughly confirmed laboratory researches conducted by many distinguished observers, and is worthy of extended trial, since it cannot possibly injure the patients. If it replaces mercury and the iodides by at once curing the disease it will mark an epoch in medicine as noteworthy as that recalled by the name of Jenner.

The Clinical Study of the Blood in Anemia.

Tomas S. Southworth, M.D., has published the following interesting article upon this subject in the New York *Medical Journal* of Nov. 25, 1893: Blood has been well described as a tissue possessing cells and a fluid stroma. With the peculiar characteristics of the latter its alkalinity or specific gravity, subjects carefully investigated of late, I shall not attempt to deal this evening. The red blood-cell has long been studied assiduously from the standpoints of origin, normal and pathological existence, procreation, and ultimate destiny. In embryonal life the red cells are formed from the endothelium of the blood vessels and from other red cells containing nuclei. During the latter part of this period the liver and the spleen are endowed with hematopoietic functions, as is also the marrow, and nucleated red cells circulate freely in the blood. At birth, however, or shortly thereafter, the spleen and liver relinquish this function and the nucleated red cells are retired from the circulation and exist only in the vaults of the marrow. From this time on nearly all agree that in health the red blood-cells are formed exclusively in the marrow, but there is more diversity of opinion as to the mode of their formation. They probably have their origin from the nucleated red cells there present, either by the budding of their protoplasm (Malassez), or by division of the nucleus and cell with subsequent extrusion of the nucleus (Rindfleisch), or by division, with subsequent disappearance of the nucleus (Foa). These theories are the more plausible in that they are in accord with the fetal methods of formation, concerning which there is a very considerable unanimity of opinion. Denys's proposition that they are formed by budding from the endothelial wall of the venous capillaries of the marrow, and Hayem's dictum that they are derived from the hematoblasts, may also be mentioned.

In pathological processes the red cells suffer deterioration in respect to numbers, color, shape, size, resistance to outside influences, capability of forming rouleaux, and the presence of nuclei. These changes, with the exception of nucleation, can be detected in specimens of fresh blood, and furnish invaluable assistance in the detection and diagnosis of disease.

The methods of counting the red cells and of estimating the percentage of hemoglobin are well known. In short, the use of the hemocytometer and hemoglobinometer requires no comment. The chief principle exemplified by those diseases which primarily affect the red cell is contained in the following brief and mathematical proposition: In chlorosis the percentage of red cells is greater than the percentage of hemoglobin; in simple anæmia the percentage of red cells equals the percentage of hemoglobin; in pernicious anemia the percentage of red cells is less than the percentage of hemoglobin. This, like many other rules, must be allowed its exceptions and must not be accepted too literally, as evidenced by the fact that the exhibition of hematinics in any case of anemia is followed first by an increase in the number of red cells and more tardily by increase in hemoglobin.

Change in shape is a more intricate matter, as its affects both the circumference and thickness of the cells. Poikilocytosis is the term generally used to denote these changes when they are present to a decided degree and the cells are tailed or kite-shaped or present other marked irregularities. This term and condition are not confined, as was once thought, to pernicious

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anemia, but poikilocytosis may be also present in any advanced anemic condition, whether there be defective formation or increased destruction of the red cells. Schistocytosis is a comparatively new word coined to denote the existence of those poikilocytes which appear to be parts broken off from large cells or the portions of disintegrated cells. Slight changes are evidenced in the loss of the normal clear circular outline or a tendency among all the corpuscles to assume an oval form. Shape is further affected by the presence or absence of the biconcavity of the cell, and cells are found especially in chlorosis where no concavity exists; in fact, the cells are biconvex and in consequence are thicker, contain more hemoglobin, and both appear and stain deeper in color. Shape as dependent upon decreased resistance will be treated of later.

In normal blood the red cells appear under the microscope to have almost the same size, and when lying side by side present almost the regularity of tessellated pavement. As soon as any deterioration, however, occurs in the condition of the blood the size varies and soon red cells may be divided into microcytes or small cells, normocytes or average cells, and megalocytes or large cells. In chronic secondary conditions microcytes exist in large numbers and the cells average small. In pernicious anemia, however, the predominance of very large cells or megalocytes becomes one of the diagnostic features. In all moderate conditions of anemia very considerable variations in size become noticeable and may be the only conspicuous change on inspection. This condition precedes as well as is coexistent with poikilocytosis and is presumably ascribable to poor workmanship in the hematopoietic factories, due to the ill-nourished condition of the workmen, an inadequate supply of raw material, and perhaps also to the poverty of the medium in which the product later circulates. The red cell in robust health is not only well formed, but it possesses greater resistance to outside influences. Changes so produced are most familiarly evidenced in the crenation of the corpuscle upon the contact of air, beginning near the edge of the cover glass and extending throughout the specimen. It also includes the swelling and distortion of the cells when exposed to the action of various chemicals in solution. One of the first things which one notices in examining a series of slides from different cases is that crenation takes place in some much earlier than in others. Investigations in this direction have as yet furnished us with no very practical data. In general, it may be said that decreased resistance keeps pace with the advance of the anemic condition and is presumably dependent upon defective formation or imperfect nutrition of the cells. Cells have their own life period and are doubtless also more vulnerable at certain stages of their career than at others. The chemical constituents of the plasma in various pathological conditions have recently furnished a field for active investigation, especially as before mentioned with reference to the alkalinity and specific gravity; but as the methods employed invade the intricate field of analytical chemistry and no diagnostic results which can be demonstrated to the eye in microscopical examination, we must omit their consideration. One point of interest with reference to the plasma still remains to be mentioned. While the serum of normal blood has no effect upon the hemoglobin in the red cells, in pernicious anemia it is found to readily abstract it from the corpuscle and to be tinged by it, on account of the lighter union between the hemoglobin and the stroma of the cell. This brings us naturally to the three theories advanced to account for the larger percentage of hemoglobin than of red cells in this disease, and these we are now in a position to consider as follows:

1. That the individual red cells being larger than the normal average, they contain more hemoglobin than the same number of cells of average size.

2. That the plasma contains additional hemoglobin in solution from cells which have been destroyed.

3. That, owing to the lighter union, all and not a part of the hemoglobin is dissolved out of the cells, and therefore higher results are obtained.

The capability of forming rouleaux seems to be dependent upon several of the foregoing conditions, especially those of form, size, and resistance; for it is at once evident that coins of different denominations, especially if mutilated, would form poor rouleaux. In ordinary chlorosis their formation is good, in moderate anemia it is lost.

Nucleation is not a characteristic of the normal red corpuscle in extra uterine life, but its presence is always a sign of a desperate struggle on the part of the hematopoietic organs. The nucleated red cells have been compared to army reserves which are only brought into action when the forces already in the field prove incapable of sustaining a winning fight. Any adult anemia may show them when it has advanced to a sufficient degree, although they may be rare and require the examination of several slides before one is discovered. But, to continue the simile used above, just as in a sudden attack, when the forces are surprised and the loss of life great, the reserves are more quickly pushed to the front, so in the anemia following hemorrhage and in that due to poisoning by arsenic, phosphorus, etc., the nucleated red cells appear quickly and are most numerous. This has been considered a reversion to a fetal type of blood formation, and the idea is somewhat substantiated by the fact that in the anemias of children, in which such a reversion would be more natural, the nucleated red cell is found earlier and upon less provocation.

Three forms of nucleated red cells are described—microblasts, normoblasts, and megaloblasts or gigantoblasts. These will readily be seen to correspond to the three types of non-nucleated cells—microcytes, normocytes, and megalocytes—above described. Of these, the microblasts are of exceedingly rare occurrence. The normoblast is the common form whose occurrence we have just described. The megaloblast, however, de-

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serves special mention, as it is almost pathognomonic of pernicous anemia. It corresponds to the megalocytes which are so numerous in this disease, and shows when stained, a larger nucleus than the normoblast. It has not, however, the reproductive power of the latter, for when the nucleus leaves the cell it dies and does not continue to form other red cells; hence their presence does not assist in staying the advancing enemia and betokens, wherever they appear, the approaching exhaustion of the blood-forming resources. Nucleated red cells which show the nucleus in the process of division are often found in the late stages of leukemia in large numbers, and more rarely in other conditions. Nucleation can not be made out in fresh blood, and for its recognition both nuclei and protoplasm must be stained.

According to von Limbeck, clinical nomenclature is accustomed to distinguish two classes of anemia—primary and secondary— those being classed as primary where the symptoms of anemia monopolize the clinical picture, while in secondary anemia the anenic symptoms are thrown into the background by those of the organic disease, upon which it depends, Although this division line can not be strictly drawn and we often meet cases in which we are in doubt as to which class they shall be relegated, still, for clinical purposes, such a classification is indispensable. Under the clinical conception of primary anemia we are accustomed to group:

1. Simple primary anemia.
2. Progressive pernicious anemia.
3. Chlorosis.

Each of these division presents its own symptomatology, partly dependent upon the condition of the blood and partly upon the disturbances in the various organs. It is the condition of the blood with which we have to deal.

Simple primary anemia with its wide range of etiological factors presents both acute and chronic stages. In the acute stage the reduction of red cells and hemoglobin go side by side as the destruction of a red corpuscle removes a corresponding amount of hemoglobin from the circulation. Following this there may be a slight increase in the white cells, but these quickly return to the normal and are not a characteristic feature. As the process advances, marked poikilocytosis occurs and nucleated red cells appear. The blood plaques also may be increased.

The general practitioner is still somewhat in the dark as to what cases shall be included under pernicious anemia, cases of advanced anemia being constantly so classed which although progressive and fatal, are manifestly of a secondary and not of an essentially primary nature. The sanguinologist, however, claims that this dignosis should be limited to cases where the affection is primary or where the coexistent condition can not be held accountable for so advanced an anemia. He also demands that the condition of the blood should conform to the following standard: In pernicious anemia the percentage of hemoglobin, although very low, is higher than that of the red cells. The power of forming rouleaux is lost. There is an astonishing reduction in the number of red corpuscles to below a million, or even below five hundred thousand. Individual red cells may be much distorted, constituting marked poikilocytosis with irregular distribution of the coloring matter in the cell. Degeneration forms and fragments of cells, known as schistocytes, are seen. A large number, however, of the red cells are very large and are known as megalocytes. Nucleated red cells, both of average and very large size (normoblasts and megaloblasts), appear. The number of leucocytes is not increased, but a reduction in their numbers keeps pace with that of the red elements.

Chlorosis has its characteristic clinical picture and a characteristic blood condition, in which the red cells remaining on the whole of good size, shape, and especially numbers, the hemoglobin shows the chief change and is considerably reduced. Thus chlorosis affects the red cells. There are undoubtedly some cases of advanced chlorosis with decreased numbers of red cells and poikilocytosis, but these cases are relatively rare and are looked upon as a combination of anemia with chlorosis. Nucleated red cells only appear in the severer cases. Leucocytosis is not found in pure chlorosis.

Another type of anemia remains to be mentioned for the sake of completeness. I refer to secondary anemia. In this, the process having settled down upon a continued morbid basis, the hemoglobin and red cells are decreased equally, the bulk of the red cells are microcytes, and the mass of the red cells average small. There is leucocytosis, and the large mononuclear leucocytes are increased in numbers. No nucleated red cells are present, spasmodic efforts at regeneration having long since been abandoned. Such a condition accompanies syphilis, hemorrhage, cancer, tuberculosis. Acute heart cases often give the appearance of anemia where none exists, due to the bad local tonus of the vessels.

Too often cases are classed as anemia without inquiry as to an existing cause, the anemia is treated without success, and the underlying factor disregarded. Anemia should always lead us to look for incipient phthisis, for cardiac and renal disease, for malignant growths, for causes of disturbed nutrition, for soures of hemorrhage. Too often valuable time is lost through this omission.

With reference to the treatment of simple anemia we should not forget the probable existence of an underlying cause or the fact that anemia is not a local but a systemic disease, that cause and effect are here retroactive, that while malnutrition may cause anemia, anemia certainly increases the malnutrition. It is due to these facts that hygiene, dietetics, and hydrotherapy are often as useful as the administration of hematinics. It is the combined attack which wins. The anemic dispensary patient often improves under treatment; the same patient in the hospital almost invariably does so, because

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of environment, diet, and rest in addition to medicinal treatment.

The use of iron to restore the hemoglobin is accepted. The indications for arsenic are not as well understood. I have seen the blood of patients who had been receiving increasing doses of arsenic remain in the sealed chamber or subjected to the three per cent salt solution of the usual Thoma Zeiss hemocytometer for hours without crenation. As the result of repeated examination of the blood of such patients, I believe that arsenic exerts its chief action upon the blood forming organs, where by their product the red blood cell is rendered of better quality and of greater resistance.

The Use of Boric Acid in Typhoid Fever.—The *Union Medicale* give a resume of an article by Dr. L. Tortchinsky, published in the *Gaz hebdomadaire de Bordeaux* (New York *Med. Journ.*):

The author used boric acid in two hundred and forty cases of typhoid fever in the course of an epidemic, and reports excellent results; only nine patients died, and they succumbed during the period of convalescence because they got out of bed too soon or committed errors in diet The two hundred and thirty-one others patients made a rapid and complete recovery. In all the cases the patients were given a dose of castor oil with from five to ten drops of oil of turpentine. After this mixture had operated the administration of boric acid was begun, the remedy being given internally, either in powder or in solution, in doses ranging from twelve to fifteen grains for an adult three or four times a day. When there was bronchitis the boric acid was associated with expectorants and with hydrochloric acid. As a general rule, at the end of from three to five days the fever and the diarrhea underwent a noteworthy diminution,the tympanites disappeared, the dejecta lost their odor and became normal in appearance, the urine became abundant and in every way normal, the tongue and skin grew moist, and the general condition was good. As soon as the amelioration was well marked the use of the acid was discontinued and tonics were ordered. Under the influence of this treatment the disease followed a favorable course, its duration was somewhat diminished, and complications were very rare. The most decided effects were obtained in cases treated early. The author has found that the effect of the boric-acid treatment may be increased by combining with that drug small doses of acetanilide, or salol. The mixture with quinine is especially useful in the last stages of the fever, when there are ataxia, delirium, and other cerebral symptoms; it is useful also in cases of relapse. The author has never observed any harmful effects from the use of boric acid. He has also produced satisfactory results with this acid in the treatment of the summer diarrhea of children.

ABSTRACTS

MEDICINE.

Immunity, Hydrophobia, Glanders.—The immunity obtained by Pasteur is brought about by the use of an attenuated virus, and appears, therefore, to depend for its production upon a principle quite distinct from that under discussion—the antitoxin theory of immunity (*Amer. Jour. of the Med. Scienc*). It is not to be inferred from this, however, that the attenuated virus theory and the antitoxin theory are necessarily irreconcilable, for the experiments about to be related, as well as those of Behring and Kitasato, and Brieger and Fraenkel upon diphtheria and tetanus, and those of the brothers Klemperer on pneumonia, all show a close relationship between the immunity produced by both methods, in that the blood-serum (presumably containing an antitoxin) of animals immunized by repeated injections of attenuated virus has been shown to confer immunity. But granting this suggested relationship, the experiments of Pasteur bear in no way directly upon the antitoxin theory. Some interesting observations upon hydrophobia, published by Tizzoni and his pupils, and by Babes and Cherchez, add weight to this theory, however, and must be briefly summarized.

In August, 1891, Tizzoni and Schwarz (*La Riforma Med*) made a preliminary report of experiments which were augmented and published at length in January of the following year (*ibid*). In these experiments rabbits were made immune to rabies by treatment with attenuated virus obtained from the medulla oblongata of rabbits which had succumbed to the virulent poison, or *virus fixe* as it is called. The blood serum of animals thus immunized was found to be capable of conferring immunity to other rabbits when injected into the jugular vein in doses of about 5 c.cm., but the blood of the animal so immunized was incapable of further communicating immunity to a third generation. Experiments with immune dogs showed the protective power of their blood serum to be inferior to that of rabbits.

By treatment with alcohol, Tizzoni and Schwarz precipitated a substance from the serum of their immune rabbits, believed by them to be of the nature of a globulin and similar in its action to that of the tetanus antitoxin in protecting from tetanus, though evidently distinct from the latter in that it had no antagonistic action to the poison of tetanus.

In October, 1891, only about two months after the appearance of the first paper by Tizzoni and Schwarz, Babes and Cerchez (*Annales de l'institut Pasteur*) described some interesting experiments on the action of the body juices of animals immune to rabies upon the *virus fixe* of the disease. Among other things they found that the blood-serum of immune dogs protected

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other dogs from inoculations of the virulent virus and cured two of four in which the treatment was begun after the inoculation of virulent virus into the brain. The importance of these experiments of Babes and Cerchez is enhanced by the fact that they were carried on quite independently of the Italian observers, and have even led to a dispute as to priority.

Encouraged by their success, Babes and Cerchez undertook the treatment of human subjects. Twenty-six persons had been badly bitten by a rabid wolf. The twelve of these most severely injured were given, in addition to the Pasteur treatment, four to six injections of 10 c.cm. each of blood serum from two immune boys (laboratory helpers who had been immunized) or from immune dogs That only one of those so treated died is strongly suggestive of the efficacy of the treatment, as the Pasteur method alone has given its most disappointing results in similar cases of wolf bites.

During the following year, 1892, it was discovered by Centanni (*La Riforma Med*) that repeated inoculations with attenuated virus were not necessary to the production of immunity to rabies in rabbits, but that by treating an emulsion of the medulla oblongata of rabbits which had died of rabies with artificial gastric juice a vaccine might be obtained which, while harmless in itself, had still a powerful immunizing action.

Working further with this method, Tizzoni and Centanni (*La Riforma Med.*; also *Deutsche med. Woch*) demonstrated that the blood of animals made immune by this method was capable of conferring immunity in turn to others, and, furthermore, possessed marked curative qualities when injected into animals suffering from well-developed rabies. Experiments were made upon five rabbits suffering from rabies induced by injections of a virus which killed control animals in from fifteen to seventeen days. Intra-venous, intra peritoneal, and subcutaneous injections of from 3 to 5 c.cm. each were given, beginning twice on the seventh day, once on the tenth, once on the eleventh, and once on the fourteenth after the inoculation, and when in all symptoms of the disease had already become more or less pronounced. All five of the animals recovered, and had remained healthy at the time of writing.

Efforts to separate the immunizing substance from the blood serum resulted in the verification of the previous experiments of Tizzoni and Schwarz. Alcohol precipiiated a substance which, when dissolved in water was found to contain the immunizing principle, neutralizing the virulence of the *virus fixe* when mixed with it in the test-tube, and retaining the power of both conferring immunity and curing animals in the early stages of rabies. The substance thus separated is believed to be the specific antitoxin of hydrophobia, and Tizzoni and Centanni announce themselves as desirous to test the curative value of their remedy in a human case of the disease.

[Those desiring to acquaint themselves more fully with the work of Tizzoni upon this subject are referred to a paper by him, read before the British Medical Association in 1892, and published in the *British Medical Journal* of March 11, 1893, page 516]

In connection with the experiments upon immunity to hydrophobia we may briefly notice some interesting attempts to protect horses from glanders, by injections of blood-serum of animals which had recovered from the disease, which have recently been reported by Hell (*Zeitschrift fur Veterinarkunde; cf. Deutsche med. Woch.*). With a view to protecting the young horses of a hussar regiment from glanders, which had shortly before proved very destructive, Hell tried the experiment of injecting the blood serum of horses which had recovered during former epidemics into the veins of those which he desired to protect. Fifty-four horses were thus treated, three of which were sick with the disease when the treatment was begun, the usual dose being about 40 c.cm., repeated until each animal had received about 300 c.cm. in the course of three weeks. None of the animals so treated was attacked with the disease, though kept in stalls where others had been sick before, and notwithstanding that an epidemic of the disease prevailed at the time in the regiment. Recovery was perfect in the case of the three animals affected with the disease before treatment.

Stimulated by these successes, Toepper (*Berliner thierarzlicher Wochenschrift*) treated sixty horses on two farms where glanders was beginning to break out, with the result of stopping further progress of the disease and curing the animals already affected.

It would thus appear that the blood-serum of animals which have survived glanders possesses the power to protect animals exposed to the contagium of the disease and to cure those beginning to be afflicted with it. In a subsequent notice it will appear that similarly the blood of convalescents from typhoid fever is capable of preventing the lesions in animals usually resulting from inoculations of the typhoid bacillus.

Tuberculosis of Bronchial Lymph Nodes in its Relation to Tuberculosis in Young Children.—To everyone acquainted with the terrible mortality of tuberculosis among young children, every effort to throw light upon the etiology of the disease, and thereby to increase our ability to curtail its ravages, must be most welcome (*Amer Jour. of the Med. Scienc.*). It has long been widely known that the bronchial lymph nodes are a very frequent seat of "scrofulous degeneration," as it was called by the older physicians, or of tuberculosis, as we know it to be; and even before reports of cases began to appear in which the origin of a general miliary tuberculosis had been found in the rupture of such cheesy glands into one or more of the adjacent vessels, a close etiological relationship was believed to exist between these cheesy lymph nodes and the more widely distributed manifestation of the disease. Thoroughly convinced of the correctness of this view, H. Neumann (*Deut. med. Woch.*)reviews the evidence in a carefully written article, discussing more

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particularly the manner in which the bronchial lymph nodes become affected.

This he believes to be possible in one of two ways only: either by direct hereditary transmission or by contagion. As the result of study of the statistics of asylums and nurseries, he is led to consider the former of these methods to be very unusual, while, on the other hand, the theory of infection by inhalation affords a plausible explanation of many observed facts inexplicable by the other theory. For example, it is well known that inorganic particles of dust, and bacteria other than the tubercle bacillus, are frequently taken up by the bronchial mucous membrane, and are conducted by the bronchial lymphatics to the nearest lymph nodes, where they are deposited, and there is every reason to suppose that the same path is traversed by the tubercle bacillus when it finds entrance to the bronchial mucous membrane. The entrance of the tubercle bacilli is believed to be facilitated by any abnormality of the bronchial mucous membrane, and, once in the lymph channels, their onward progress would be more rapid in the congested lymphatics of inflammatory conditions. In this way Neumann explains the frequent sequence of tuberculosis upon measles and other diseases in which the bronchial mucous membrane is inflamed. Furthermore, the occurrence of acute inflammation of the lungs or bronchi is believed to materially contribute to the rupture of pre existent cheesy glands, and to the consequent dissemination of the tubercular virus throughout the body.

The diagnosis of tuberculosis of the bronchial lymph nodes is attended with much difficulty, though in many cases quite possible. When it can be made with a fair degree of certainty, much light may often be thrown upon the nature of otherwise obscure infantile maladies The diagnosis may be made when many bronchial glands are enlarged together, so that a bunch of considerable size results, giving rise to symptoms of compression upon the bronchi or on the adjacent nerves. Percussion may aid in the detection of large tubercular nodes in the anterior mediastinum, but is believed to be thoroughly unreliable when over the back. On the other hand, the occurrence of harsh, dry bronchial breathing over the root of the lungs behind, with the patient's mouth closed is believed to be of much diagnostic significance. Neumann also describes a peculiar cough as characteristic of enlarged bronchial lymph nodes, resembling in its paroxysmal quality the cough of pertussis, but being of longer duration, and not communicable by contagion.

Diphtheria and Croup, and "Diphtheritic" Throats.—In the report of the medical officer of the Local Government Board, Dr. Klein describes the clinical phenomena and bacteriology of eight cases of ordinary typical diphtheria, "croups" of different forms, and of so-called "scarlatinal diphtheria," illustrating in the most remarkable manner the value of the determination of the presence or absence of Loffler's bacillus as a means of diagnosis (*Am. Journ. of the Med Scien.*) Bretonneau recognized the "false membrane" as essential, in fact as constituting the disease; Virchow divided all cases of pharyngitis and laryngitis into catarrhal, fibrinous, and diphtheritic, and later pathologists have defined his fibronous exudation as superficial, and his diphtheritic as those infiltrating and inducting more or less necrosis of the mucous and submucous tissues. But all these are differences of degree, not of kind, and apart from the doubt attaching to mild cases of these as of any other disease, there are at least three sets of problems with which the physician is frequently brought face to face, and which he cannot solve on clinical evidence alone. These are to distinguish:

1. The true nature of foul sore throats, certainly infectious, but with no definite exudation, few if any, terminating fatally—such cases occurring either alone, or before, during, or after an epidemic of virulent and fatal diphtheria.

2. Cases of "scarlatinal diphtheria," i, e., of scarlatina in which all the visible phenomena of diphtheria supervene on those of scarlatina concurrently with or subsequently to the primary disease.

3. To differentiate between laryngeal diphtheria and "membranous croup," to say nothing of the catarrhal and spasmodic forms.

Of course, the neuroses or paralytic symptoms are absolutely characteristic of diphtheria, but they are often absent and always appear too late for actual diagnosis.

There can, however, be no longer doubt that the bacillus of Loffler is the essential cause of diphtheria, that it never occurs in any other disease, and that it will always be found in the true diphtheria, however vague the clinical symptoms, if, and this is no small advantage, only it be looked for early enough. After the third day numerous foreign microbes make their appearance, and may even crowd out the specific one, but before that date the exudation may present an absolutely pure and abundant culture.

For the morphology of the bacillus recourse may be had to works on bacteriology, but it is also remarkable for its stability, no very appreciable modification of its form, or diminution of its luxuriance, and none whatever of its virulence being induced even by acid broth in cultures carried to the twentieth remove.

Dr. Klein's examination of the scarlatinal cases fully confirmed the conclusions of Babies, Escherich, Holzinger, Wurtz, and others, that, although simultaneous infection with diphtheria and scarlatina is possible, it may be laid down as a rule that diphtheritic symptoms appearing as a sequel to the fever—that is, after one, two, or three weeks—are true diphtheria, and will yield the bacillus in question; but that the like symptoms occurring as a complication, that is, in the course of the fever, are not,and though the streptococcus of scarlatina may be present, Loffler's bacillus will be looked for in vain.

Dr Klein sums up his conclusions as follows:

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1. Membranous croup of the larynx and trachea occurring concurrently with diphtheria of the fauces is true diphtheria.

2. The so called scarlatinal diphtheria is not true diphtheria

3. Diphtheria of the fauces and membranous croup, following sometimes after scarlatina, are both true diphtheria.

4. Membranous croup of the larynx and trachea, without diphtheria of the fauces, may be of two kinds: *a*, true diphtheria, *b*, genuine fibrinous croup without the presence of the diphtheria bacillus, and therefore not true diphtheria.

Bretonneau himself had shown long ago, as have Reitz and others since, that a fibrinous menbranous but not infectious exudation might be produced experimentally by (chemical) irritants, and there is therefore no reason why it should not have a patholgical though not a specific origin.

Basophobia.—The *Medical Week* states that Professor Debove reported at a recent meeting of the Hospital Medical Society of Paris a peculiar disturbance of locomotion in which there is complete loss of the power of walking or standing erect, due to emotional causes, although the strength of the muscles concerned is not appreciably diminished. A woman, age forty eight years, had these peculiar symptom as the result of a violent emotion. During ten years she gradually went from bad to worse until her admission to the hospital, when she could not walk without assistance, though she could go from one end of the room to the other if somebody held her by the hand. In the recumbent posture she had no difficulty whatever in going through all the voluntary movements she was asked to perform. General and special sensibility were intact, and there was no impairment of the muscular power. The knee reflex was absent on both sides, but presented no other symptom of tabes, and there was no evidence of hysteria. There was a certain resemblance between the symptoms observed in this patient and those of agoraphobia, from which they differed, however, in the absence of the feeling of anxiety characteristic of the latter affection. Moreover, the inability to walk or stand erect was present as well in a closed room as in open spaces. In astasia-abasia there is an absulute impossibility of walking or assuming the erect posture, with no impairment of the muscular power or inco-ordination of movements, and it seems to indicate a loss of memory of how to walk; these patients experience no fear or anxiety on endeavoring to perform the movements of locomotion, hence no amount of encouragement or assistance will enable them to walk or stand. On the contrary, basophobiacs are perfectly cognizant of the fact that the difficulty they experience in assuming or maintaining the erect posture is due to a feeling of apprehension that they are unable to overcome.

SURGERY.

Air Embolism.—One of the most distressing and rapidly fatal accidents that can occur in a venous wound is the entrance of air. It must be a large vein to admit it. It is sucked in in inspiration. That is the case in the larger veins about the neck, which have no valves, and is especially the case when the mouth of the vein happens to be held open after it is cut by being attached to a fascia, as about the neck, in the popliteal space, in the groin, etc., but especially in the neck. When, for example, the surgeon is engaged dissecting out a tumor in the subclavian triangle, every thing is done more easily if the parts are on the stretch. The tumor is lifted to dissect it out; the parts beneath are on the stretch. They are out of sight and very probably displaced by the growth of the tumor. The vessels may be enlarged as well as displaced by the long-continued pressure of the tumor. It is, then, easy to understand how it frequently happens that the surgeon, in dissecting out the tumor, cuts through the fasica and the wall of the vein, the patient, making an inspiration, draws air into the vein, and the immediate consequence is what is sometimes called air embolism—that is, the air rushes down into the right cavity of the heart and appears in some way to obstruct immediately the action of the valves, either by displacing the blood and causing a froth, or by churning up the blood; at any rate, the immediate effect on the heart is terrible and disastrous. The patient gasps, paleness and lividity come on, and death takes place in a very short space of time.

The best treatment, of course, is the preventive treatment, and there are two ways that may be used—either an assistant must be ready to thumb any vein that may be opened, and keep his thumb right about the subclavian region while the operation is going on, or another expedient may be used, which is to keep the bottom of the wound thoroughly wet in a puddle of some antiseptic fluid. Either of these measures is a safe one.

When the accident occurs it is generally fatal. One or two bubbles of air occasionally go in and do not make enough trouble to destroy life, although there are temporary faintness and palpitation. The sound of the air entering is usually quite distinct. It is sucked in with a gurgle; the surgeon at once becomes conscious of the fact and compresses the vein, injects ammonia or brandy promotes artificial respiration, and, in a slight case, succeeds in saving life, but not in the severe ones.—Boston *Med. and Surg. Journ.*

Celiotomy for Perforated Gastric Ulcer.—Barling (Birmingham *Med. Review*), reports the successful treatment by celiotomy of a case of gastric ulcer with perforation and peritonitis (*Med. News*): The same treatment had been previously pursued in two other cases, but with an unfavorable outcome.

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The first case was one of latent gastric ulcer in a girl, twenty two years old, presenting symptoms of peritonitis, in which the abdomen was opened six hours after the onset of the acute manifestations. The source of perforation could not be found at the operation, and death took place twenty-four hours afterward. Upon post-mortem examination, a perforating gastric ulcer was found on the anterior wall of the stomach, rather nearer the cardiac than the pyloric extremity.

The second case occurred in a girl twenty years old, with a previous history of gastric ulcer. Symptoms of peritonitis developing abruptly, the possibility of perforation was considered, and the abdomen was opened. At about the middle of the anterior wall of the stomach an opening, with indurated margins, was found. Five Lembert sutures were introduced with a good deal of difficulty, and the abdomen was flushed and closed and drainage provided for. Death took place thirty hours after operation. Upon post-mortem examination, well-marked peritonitis was found, especially in and around the portal fissures, and about a pint of thin purulent fluid escaped from the cavity of the abdomen and pelvis. The perforation on the anterior wall of the stomach was effectively closed by the sutures, and adhesions had formed between the opposed peritoneal margins. A second ulcer, which had almost perforated, was found on the posterior wall.

The third case occurred in a domestic, twenty nine years old, who was seized with abdominal pains, faintness, and vomiting. She had previously suffered from epigastric pain and vomiting, though there had never been hematemesis or melena. The acute symptom had set in a day after the ingestion of a heavy meal, with a feeling as of something having given way within the abdominal cavity. Indications of peritonitis soon appeared, and a provisional diagnosis of perforation of a gastric ulcer was made. Under appropriate treatment the girl did fairly well for a number of days until pain was complained of in the left hypochondriac and lumbar regions, soon followed by the appearance of a swelling in the left hypochondrium. Under further treatment the symptoms again receded for a time, when, the condition of the patient appearing precarious, it was decided to perform abdominal section. An incision was made over the swelling in the hypochondrium and a small abscess-cavity found behind the stomach and evacuated. The patient doing badly after the operation had been in progress for about ten minutes, a drainaged tube was introduced into the abdominal cavity and the wound was speedily closed. Rather contrary to expectation, the girl did well. The progress of the case was complicated by the successive development of phlebitis in both legs, but recovery ultimately ensued.

Such a result as this, in connection with a condition that under any other plan of treatment is almost certain to be fatal, is, to say the least, encouraging, and adds new laurels to the credit of modern surgery and modern surgical methods. The wisdom of first passing a drainage-tube into the stomach through the orifice of perforation and evacuating any fluid present is pointed out, and considerable importance is attached to the employment of two tubes for drainage, the one placed *in situ* close to the perforation, the other introduced into the abdomen just above the pubes.

OBSTETRICS AND GYNECOLOGY.

The Binder in Childbed.—Windmueller (*Centralbl. f. Gynak*), recently opened a long and instructive discussion on the management of normal labor and childbed. He had conducted over a thousand labors in private practice alone in the course of thirty years. He wraps flannel round the body, but objects to the abdominal binder, which he finds interferes with the functions of the intestines, checks involution of the uterus, and is in the way during ablution. For the first three days he limits diet to milk, bread and butter, rice, spinach, potatoes and fish. He forbids wine and coffee and believes, with Zweifel, that errors in diet are among the chief causes of prominent abdomen. The patient is kept on her back for three days, but Windmuller holds that 10 days' rest in bed is sufficient. He has had no cases of prominent abdomen in any of his patients even in multiparæ, with the exception of those who had grown fat. In the discussion, several experienced obstetricians differed as to whether prominent abdomen was due to deposit of fat in the parietes after labor, or to distension of intestines which could be controlled by the binder. Many surgeons applied no bandages after abdominal section; but the physiological conditions were not the same as in the puerperium. Schrader and others believed that the binder did more good than harm; he laid great stress on diet in childbed as influencing the future form of the abdomen. All food liable to cause flatulence must be avoided; spinach and potatoes were particularly bad in this respect. When the pelvis was narrow, or its angle too acute, the chances of the abdomen becoming pendulous after labor were great. To counteract the evil, a good abdominal binder should be worn during the last months of pregnancy. In Japan it was customary for women to wear a binder during the entire second half of gestation. The binder in pregnancy supported the anterior walls, and greatly diminished the chances of parting of the recti.—*Brit. Med. Journ.*

A New Foreign Journal.—A periodical has recently appeared in Warsaw under the editorship of Dr. W. H. Krajewski. The journal takes for its province "surgery, otology, laryngology, ophthalmology, midwifery and gynecology, and syphilography and dermatology." The original articles are in Polish, but a summary of them in French is appended, and an epitome of current Polish medical literature is given in the same language.

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MEDICAL SOCIETIES

Southern Surgical and Gynecological Association.

The sixth annual meeting of this Association was held in New Orleans, La, November 14, 15, and 16, 1893 (*Med. Rec.*).

FIRST DAY, TUESDAY, NOVEMBER 14—MORNING SESSION.

The Association convened in the assembly room of the Medical Department of Tulane University, and was called to order by the President, Dr. Bedford Brown, of Alexandria, Va., at 10 A. M.

Prayer was offered by the Rev. B. M. Palmer, of New Orleans.

An Address of Welcome

was delivered by Dr. Ernest S. Lewis on behalf of the local profession, which was responded to by President Brown.

Dr. A. B. Miles, of New Orleans, then reported, as Chairman, on behalf of the Committee of Arrangements. The reading of papers was then proceeded with, and the first paper read was by Dr. Howard A. Kelly, of Baltimore.

Diagnosis of Pelvic Inflammatory Diseases.

Dr. Kelly called attention to certain common sources of error in making diagnosis of pelvic inflammation. An erroneous conclusion is often reached in these cases, both by general practitioner and specialist, by relying for the diagnosis upon such symptoms as dysmenorrhea, more or less persistent pain in the pelvis, attacks of pain confining the patient to bed, diagnosed as peritonitis, difficult locomotion, cachexia (due to morphia habit), tenderness on pressure over the ovarian region, and extreme tenderness at the vault in a vaginal examination. Such a group of symptoms frequently characterizes a false or pseudo-pelvic peritonitis, in which there is actually no demonstrable lesion of any pelvic organ.

In order to make a diagnosis of true pelvic inflammatory disease the inflamed structures must be examined directly by touch. The various subjective symptoms must be regarded as of secondary importance in reaching a diagnosis. Even the patient's observation that she has passed a quantity of pus cannot be relied upon, unless the pus is seen by the physician, as patients often mistake muco purulent discharges from the uterus for the emptying of an abscess.

Fever, and especially recurrent attacks of fever, are valuable aids in making the diagnosis, but fever is generally absent, even in abscesses when the pus is encapsulated. The direct examination, the sole test, is made by the vagina, or by the vagina and lower abdominal wall, and the diagnosis of pelvic inflammatory disease is made when a definite hard resisting mass is felt on one or both sides of the cervix. Through an empty rectum these masses are still more distinctly outlined. When the disease is not quite so evident a bimanual examination through the rectum and abdomen should be made, carrying the index-finger of the lower hand above the rectal pouch behind the uterus, and laterally out on to the broad ligaments. The most minutely accurate examination of the pelvic organs which can possibly be made is called for when the ovaries and tubes are enclosed in delicate bands of adhesions which allow considerable mobility to structures not enlarged. This is accomplished by the trimanual method of vagina, rectum, and abdomen simultaneously, under anesthesia.

Dr. Kelly exhibited his corrugated tenaculum devised to facilitate this examination. The point of the tenaculum is caught in the anterior lip of the cervix, which is drawn down to the hymen, and the tenaculum is held between the third and fourth fingers and the ball of the thumb, while the index finger is introduced into the rectum and, aided by the hand-making pressure above giving a plane of resistance, is enabled to examine minutely the posterior surface of the uterus, and all surfaces of the ovaries and the tubes, detecting the slightest adhesions binding these organs down. The examination under anesthesia is a matter of the utmost importance, and not sufficiently appreciated. Without anesthesia the most accurate examinations are impossible, it is therefore a *sine qua non* to the diagnostician.

The Conservative Treatment of Pyosalpinx.

Dr. C. Kollock, of Cheraw, S. C., followed with a paper on this subject. He said, in cases of pyosalpinx, much caution and a very careful and rigid examination are called for to determine the cause of the presenee of pus, the length of time it has been there, and the condition of the walls of the tube in which it is found. Attention should also be given to the peritoneum and ovaries, but above all, there should be the strictest inspection of the endometrium, a disordered condition of which contributes much to the production and continuance of pus in the tubes.

Within a year or two changes have been made in the treatment of pyosalpinx, and conservatism now enters largely into its management. Men of high position in the profession are more decidedly agreed that a moral obligation rests upon us to relieve patients without the sacrifice of any organ, or part of one, when this is compatible with safety. Recently Polk, Pryor, Krug, Boldt, and Dudley had reported to the New York Obstetrical Society a number of cases of pyosalpinx treated by the conservative method now in vogue. This treatment, when faithfully carried out by curettement and aseptic divulsion, has not only been successful in saving the tube and ovary on the non affected side, but in several instances the diseased tube was entirely relieved of the presence of pus. That many cases of pyosalpinx have been accurately diagnosticated and radically cured with-

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out the mutilation of any part of the sexual organs, is well authenticated, Dr. Kollock's experience, while limited compared to that of others, has been sufficient to convince him that the conservative system of practice is bringing us to that period when the mutilation of women, once supposed to be necessary, should cease.

Dr. Kollock then reported a few cases of pyosalpinx which had fallen into his hands, the happy termination of which had placed him under obligations to the pioneers in the conservative treatment. All but one of four cases were relieved entirely without resorting to celiotomy.

Dr. George J. Engelmann, of St. Louis, Mo., emphasized the importance of administering an anesthetic in examining patients with pelvic inflammatory disease, before serious operative procedures are entered upon. It was not alone the anesthetic, however, but the practiced touch.

Dr. Joseph Price, of Philadelphia, Pa., alluded to "dropsical tubes" as being a group of cases that puzzled the practitioner from a diagnostic point of view, and later surgically. Angry pus cases, while acute in their early history, were simply cases to be dealt with surgically. The attacks of pain were numerous, and fixation and tenderness characteristic symptoms. Everything in the pelvis was board-like, and when the surgeon got into the abdomen from above it was difficult to distinguish the uterus from the appendages, and *vice versa*. These were trying cases to deal with.

Dr. John D. S. Davis, of Birmingham, Ala., said he was in favor of evacuating pus wherever it was found in the body. There were, however, some cases in which pus could be removed without sacrificing the ovaries or tubes. As to the use of an anesthetic, he considers it absolutely essential in the examination of doubtful cases, but where the diagnosis is plain it is not necessary.

Dr. R. B. Maury, of Memphis, said the great difficulty in the class of cases referred to by Dr. Kollock, in which there was pelvic inflammation associated with mucopurulent discharges from the uterine cavity, was to decide whether there is pyosalpinx. We have what is denominated endometritis, associated with it normal discharges and exudation in the pelvis, but Dr. Maury says he is at a loss sometimes, with the most careful diagnostic measures, whether under ether or without it, to form in his own mind an accurate picture of what the precise state of things is in the pelvis. The rule he has laid down in the treatment of such cases is, if they are acute, non puerperal, that the woman is entitled to a certain period of rest and other measures non-surgical, before deciding upon a radical operation.

Dr. W. E. B. Davis, of Birmingham, Ala., believes that, in the examination of patients, it is exceedingly difficult in some cases to make an accurate diagnosis without an anesthetic. However, there were women who could stand the examination well without it.

In regard to endometritis, by judicious and careful curettement he believes many patients can be saved the necessity of an abdominal section. The trouble is that practitioners often denounce one procedure and uphold another without outlining the indications for a certain position. It is very important to cure the endometritis before it spreads to the tubes, etc.

Dr. R. M. Cunningham, of Pratt City, Ala., was inclined to look upon endometritis, in the vast majority of cases of disease of the appendages, as the *fons et origo* of the whole affair, and he believes that the operation which has been systematized and popularized by Dr. Polk is a safe, conservative, and reliable procedure. Furthermore, in the hands of the general practitioner it would relieve many of those cases that go to the laparotomist.

Dr. Bedford Brown, of Alexandria, Va., said the mobility of the uterus and its fixations were questions of great importance in diagnosticating pelvic inflammatory disease.

Dr. L. S. McMurtry, of Louisville, Ky., delivered a memorial address on Dr. Ephram McDowell. He said it would seem almost a work of supererogation to submit an elaborate biographical sketch of McDowell, after the very complete accounts of his life and labors which have been contributed to medical literature by the late Professor Samuel D. Gross and the late Dr. John D. Jackson; yet, he presumed that no one would for a moment question the good taste and wisdom of perpetuating in the volumes or "Transactions of the Association" the names and deeds of eminent Sourthern surgeons who had done so much to lay the foundation, in America and the whole world, for the present splendid system of surgery and gynecology. This galaxy of illustrious names would be incomplete without that of McDowell, the father of ovariotomy and the pioneer of abdominal surgery, which in modern times has grown to such grand proportions.

In the year 1852, twenty two years after the death of McDowell, Professor Gross, in his celebrated report on Kentucky surgery to the Kentucky State Medical Society, presented a sketch of the life of this eminent surgeon, with a detailed account of his original surgical work. This sketch was subsequently incorporated in Gross's "American Medical Biography," published in 1861.

After giving a sketch of his life, Dr. McMurtry then referred to McDowel's first ovariotomy, on Mrs. Crawford, and noted some points with reference to his operative technique. The operation in this case was done without an anesthetic. The incision was made to the left of the median line, about three inches external to the rectus muscle, and nine inches in length. After opening the peritoneum he first tied the pedicle with a strong ligature, and then cut open the tumor and removed its contents. He then divided the pedicle, it having been previously tied, and removed the sac. As soon as the incision was made into the abdomen, he states the intestines rushed out upon the table, and were not replaced until the operation was completed, which, he adds, "occupied twenty-five minutes." He then

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turned the patient upon the left side to allow all fluids to escape. He closed the incision with interrupted sutures and brought out the ligature attached to the pedicle at the lower angle of the wound.

In reporting his cases he omits mention of the material composing the ligature, and Dr. McMurtry had been informed by a friend of McDowell, now dead, who was a great deal about McDowell's office in his boyhood, that the ligatures used were made of shoemaker's thread and waxed thoroughly before being used. Adhesive strips and bandages completed the dressing, and in the author's language, he prescribed "a strict observation of the antiphlogistic regimen." The special features of the technique are:

1. The incision was made through the muscular layer of the abdominal wall, three inches external to the rectus muscle.

2. The cyst was not evacuated until after the pedicle was tied.

3. An effort was made to cleanse the peritoneum of fluids.

4. Drainage was sought, as well as escape of ligatures, by bringing the ligatures out at the lower angle of the incision.

5. The operation occupied only twenty-five minutes, expedition being more the result, doubtless, of the want of an anesthetic than otherwise.

In his report of his second case he used this language: "I laid her side open." In his third case, however, he adopted the median incision, saying in his report of this case, "I changed my place of opening to the linea alba." In all of his cases he ligatured the pedicle before separating the adhesions or tapping the tumor. In his third case he mentions that the ligatures could not be released for five weeks, at the end of which time the cord was taken away.

AFTERNOON SESSION.

The Incision in Abdominal Section—How to Close It—Post Operative Complications About It.

Dr. Joseph Price, of Philadelphia, read a paper on this subject. He said the question that most vitally concerns surgical and gynecological work was, How can the mortality be reduced? Surgical judgement and surgical fingers repeatedly determine the issue of life or death.

The Incision.—We have nothing from which we can ever approximately determine to what extent the length of the incision influences the mortality. The statistics of comparative results would not prove satisfactory, for the reason of the entry of so many other compromising elements—adhesions, their character, extent, and locality. That the incision exercises a greater influence than is generally recognized or admitted, he entertained little doubt. As to length, no rule of mathematical certainly could be laid down. In his own experience he finds the balance of both convenience and safety to lie with the short incision. The short incision narrows the limits of hemorrhage. It is safe to begin with a small incision, and where the size and character of the tumor or complications present require a larger one, it can easily be made. Very much abdominal work can be done through an opening admitting only two fingers. The reliance of the abdominal surgeon must be largely in educated fingers. In the majority of cases an operation can be done through a small incision without the operator or spectators seeing viscera. Universally adherent, irreducible, or solid tumors require a large incision for delivery, and for dealing with complications that can only be dealt with through a long incision, those beneath and on the sides of tumor. In the majority of cases, to so enlarge the opening as to obtain a view of the parts, we augment the risk of ventral hernia and provoke tedious convalescence.

The importance of a perfect closure of the incision has only recently received that attention it deserves. The effect should be to approximate as nearly as possible normal conditions, anticipating and dealing with all existing or possible complications with scrupulous minuteness and care, thus guarding against those accidents which are too frequent. He would not pretend to suggest uniform procedures to be carried out in all cases, as each operator has his own way and does his own work best that way, and it would not be possible for him to apply the methods of others safely and successfully without special training. He is satisfied that the exposure and manipulation of the incision, as well as the peritoneum, is harmful. Incisions bathed in pus and filth, and freely manipulated, often refuse to unite. Suppurating wounds are largely due to careless closure or to tight sutures, including too much tissue. Tight suturing is too common, and has destroyed life in many feeble subjects. Suppuration due to tight suturing and stitch-hole abscesses, in all sections, where they do not result fatally, prolong convalescence. Cases were cited in point.

Through and through suturing including all structures, more of the central structure than skin or peritoneum, with either silkworm gut or pure silk, give and continue to give, the most satisfactory results. Silk worm gut seems to be the favorite material at present, as it possesses all the natural and essential qualities of a suture, is small, strong, and non-irritating—the three cardinal virtues of all good suturing material. Terracing sutures has nothing to recommend it; on the other hand, Dr. Price believes it prolongs an operation. Retraction of skin and peritoneum by the introduction of silkworm sutures, gives inclusion to more central structures and the least possible tension on skin and peritoneum. Keith, Tait and Bantock, all use a fine straight needle, and their work has been about perfect. The use of large, curved, cutting needles is harmful, their use primarily favors hemorrhage, and secondarily stitch-hole absesses.

Dr. Kelly thinks that long incisions have little or nothing to do with mortality, except in an indirect way.

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Where there are many adhesions a long incision is necessary. Handling of the viscera in pre-antiseptic days increased the chances of suppuration, and consequently of peritonitis and death. The chances of infection he believes are greater with a long incision. Hernia comes from improper closure of the abdominal wall, or the use of the drainage-tube weakening the abdominal wall at one of its points.

Dr. L. S. McMurtry, of Louisville, demonstrated his method of sutering on the board. He brings peritoneum to peritoneum, muscular structure to muscular structure, fascia to fascia, skin to skin, and says the least quantity of interposing material we have between the tissues that are to be brought together the better. He disagrees with Dr. Kelly that the drainage-tube is the cause of hernia after closing the incision.

Dr. R. B. Maury, of Memphis, favored the silkworm gut through and through suture. His experience covers nearly three hundred sections, and he has simply used the through and through suture. He has had almost no abscesses and the fewest possible number of herniæ, and which he says can be counted on the fingers of one hand.

Dr. T. J. Crofford, of Memphis, said it was considered that all herniæ resulting from abdominal section were due to failure to get union between the opposing layers of transversalis fascia. He uses a long curved needle instead of a straight one. With it he can put in stitches in one third of the time he can with the ordinary needle. He has used it in upward of two hundred sections, and has not had a case of hernia to follow one of them. He has also had the fewest number of stitch abscesses.

Dr. Price, in closing, said there was an immense amount of theory about the matter of long and short incisions, and there was a tendency on the part of some to brush aside pre antiseptic work. Notwithstanding this, however, some of the old back-numbers, or hayseeds so-called, had as good results in their day as are obtained in some of our hospitals to day. He urged great caution in the terracing method of suturing.

[TO BE CONTINUED.]

A Reception to Dr. Holmes.—The College Club of Boston gave a reception to Dr. Oliver Wendell Holmes last Saturday afternoon. Mrs. L. F. Davis, the president of the club, assisted by Mrs. Alice Freeman Palmer, received the guests. About five hundred persons were persented to Dr. Holmes, who received them seated in a laurel decroated chair in the parlor, under a bower of palms. During the evening Dr. Holmes recited "The Last Leaf," "Dorothy Q," and "The Chambered Nautilus."

NOW is the time to subscribe for the MEDICAL REVIEW.

NOTES AND ITEMS

The Harvard Medical School.—The position of dean of this school having been resigned by Dr. H. P. Bowditch, it is said to have been offered to Dr. William M. Richardson, Professor of Obstetrics. Among the subjects for the evening lectures is the anatomy and surgery of the gall bladder, by Professor Maurice H. Richardson.

From an examination of four hundred crania at the Museum in Cambridge, Dr. W. P. Coues (*Am. Lancet*) found that "where the digastric fossa is deep or there is a small mastoid process the lateral sinus is almost invariably deep, coming up toward the mastoid cells; so that in operating upon the mastoid, if we find it small, or the diagnostic fossa deep, great care must be taken lest the lateral sinus be wounded."

Frank Advertising.—A method of offering commissions to physicians adopted by a Philadelphia firm of manufacturers and dealers in trusses is unequivocal. Blotting-pads are sent all physicians (even oculists!) praising the trusses, the "lady attendant," etc., but the most emphasized part of the advertisement is this, in double caps: "If You Will Send Us Your Patient We Will Reciprocate With a Check by Return Mail." This is a notice to the traders in medicine, but it is also a notice to physicians where "not" to send patients.—*Medical News*.

Doctors Give a Reception.—The Philadelphia Medical Club recently tendered a reception to Surgeon-General George M. Sternberg, at the rooms of the Penn Club, Eighth and Locust Streets. Before the social session a brief business meeting was held, at which Dr. Wilson Buckley was elected Treasurer, vice Dr. Curtin resigned. The reception was entirely informal, a lunch being one of the features. Among those present were: Dr. G. de Schweinitz, Dr. John Guiteras, Dr. James Gan Buskirk, Dr. T. Chalmers Fulton, Dr. Frank Fisher, Dr. J. J. Beatty, Dr. John A. Ryder, Dr. J. A. Cantrell, Dr. W. Joseph Hearn, Dr. R C. Norris, Dr. Clinton Cushing, of San Francisco; Dr. William Goodell, Dr. C. O. Schaffer, of Baltimore; Dr. Hobart A. Hare, Dr. Green Hulshizer, Dr. W. W. Keen, Dr. D. D. Stewart, Dr. H. C. Wood, Dr. A. C. Abbott, Dr. E. E. Montgomery, Dr. W. E. Ashton, Dr. J. M. Barton, Dr. A. H. Hulshizer, and others.—*Philadelphia Inquirer*.

Arsenic as a Cause of Multiple Neuritis. The *Lancet* for November 18 contains a report of a post-graduate lecture on "Some Symptoms and Varieties of Multiple Neuritis" by Dr. Thomas Buzzard, Physician to the National Hospital for Paralytics and Epileptics, London (*N. Y. Med. Journ.*). The lecturer reminded his hearers that alcohol, diphtheria, septicemia,

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gout, rheumatism, and diabetes were perhaps the most frequent causes of multiple neuritis, but among the exceptional causes was the administration of arsenic. A short time before he had seen a patient, the subject of congenital cholera, who had been tested with increasing doses of arsenic for two months. The largest dose, the man said, had been seventeen minims of Fowler's solution three times a day. While he was under the influence of this treatment his hands and feet became somewhat inflamed, and the soles of his feet, and especially the toes, grew red and tender. He complained of a "pricking, pins and needle" sensation. The cutaneous sensibility was impaired and the skin of the hands peeled. The knee jerk was abolished on each side. His feet felt like clogs, so that he could walk but little. Six or eight months afterward the knee jerks were present, but "required re enforcement." The cutaneous sensibility was still impaired in the hands. His fingers were clumsy and touches upon them give rise to pricking feelings. He was, however, gradually recovering. Alcohol and syphilis could be excluded as causes of this polyneuritis, which had developed while the patient was taking increasing doses of arsenic and which had gradually subsided when the administration of that drug was discontinued. Such a case represented, as it were, the artificial production of multiple neuritis, and might be usefully remembered, not only because it epitomized the symptoms of multiple neuritis, but might serve as a warning against a certain danger belonging to the employment of arsenic which was sometimes not considered.

The Publication of Physicians' Portraits.—The following under date of Dec. 26, 1893, addressed to the editor of the New York *Medical Journal* by the Maltine Manufacturiug company, explains itself:

SIR.—Your reference to our calendar for 1894 demands our attention. While you did not mention us by name, the reference is so direct that the physicians who received the calendar can not but know to whom you referred.

It has been our custom for several years to send to the medical profession throughout the United States portraits of eminent physicians and surgeons, and, inasmuch as their distribution has been scrupulously confined to medical men of good repute, no objection has been offered by those gentlemen whose likenesses we reproduced. Not a copy of this calendar, nor of any of our other numerous publications, has ever been sent to the laity.

Maltine is distincly not a "patent medicine," nor has it ever been advertised to the public, and therefore we have considered it within our province to distribute portraits just as we have promulgated testimonials from the most eminent physicians and chemists in this country and Europe.

We have statistics to prove that ninety per cent of the physicians of the United States prescribe maltine. This fact, in addition to the fact that we reach the patient only through the physician, would seem to amply vindicate our use of the likeness of a physician whose pictures are on pnblic sale and have continually appeared in the public press, and who is well known as a public man.

The portraits referred to were not used to push the sale of our preparations, as was the portrait of Dr. D. Hayes Agnew, recently published by us. It will be remembered that we printed under Dr. Agnew's portrait a facsimile of his indorsement of maltine. Our only reason for publishing the portrait of Dr.——was because we thought it would interest his medical brethren, who have shown so high an appreciation of the series of likenesses we have already published.

We should like further to say that as soon as objection was made by him we suspended the distribution of the calendars, as we would not knowingly offend even one of the honorable profession to whom we are so greatly indebted.

International Medical Congress.—A letter of the Secretary General's, dated November 29, informs me that "traveling documents" will be sent to the address of every subscriber on or before February 15, 1894; and that after that date congressists will have to apply to the undersigned.

It also contains the following regulations of former circulars:

Members' dues are five dollars (money order to Prof. L. Pagliani, Rome), guests' (wives and adult relations) two dollars, medical students: no fees. All are entitled to traveling documents.

Reductions on the Italian Railways are available from March 1 until April 30. A. JACOBI, M.D.,
Chairman National Committee.

The undersigned Chairman of the American National Committee of the Eleventh International Medical Congress has received the following communications from the Secretary General:

1. Papers to be read in any of the Sections of the Congress should be announced on or before January 31, 1894, to the Secretary General, Prof. E. Maragliano, Ospedale Pammatone, Geneva, Italy.

2. The title of the paper ought to be accompanied with a brief abstract of its contents and conclusions.

3. The programme to be distributed will contain the titles of all the papers announced before August 31, 1893, and since.

4. The reductions granted by the Railway Companies months ago will be available from March 1 to April 30, 1894.

In the interest of such medical men as will sail for Europe before official cards will have been received from the General Committee, the undersigned proposes to supply in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. It is suggested, besides, that a passport may increase the traveler's facilities.

Very respectfully, A. JACOBI, M.D.

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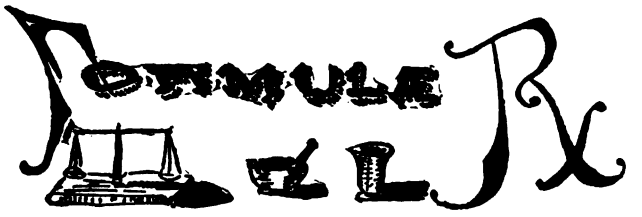

Diphtheria.

℞ Sennine, - - - - - - - - - - ʒij.
Acid. lactic., - - - - - - - drops, xl.
Aq. destillat., - - - - - - - - - fʒvj.
Glycerin, - - - - - - - - - fʒj.
M.
Sig. Apply with atomizer every hour or two as necessary.

℞ Sennine,
Potass. chlorat., - - - - - - - aa ʒj.
Aquæ, - - - - - - - - - fʒiv.
Glycerin, - - - - - - - - - fʒj.
M.
Sig. Use as a gargle every two hours or inject teaspoonful, warm, in each nostril every two hours.

Cough Mixture.

℞ Codein sulph., - - - - - - - - gr.j.
Syrup. Hypophosph. Comp., (McArthur),
Syrup. pruni Virginian., - - - - aa fʒij.
M.
Sig. Teaspoonful four times a day.

Blepharoadenitis.

℞ Phenosalyl, - - - - - - - - - mv.
Vaseline, - - - - - - - - - - ʒj.
M. F. ungt.
Sig. For external use.

Chronic Malaria.

℞ Horsford's Acid Phosphate, - - - - - fʒij.
Lig. Potassæ arsen.tis, - - - - - - fʒij.
Strychnin. sulph., - - - - - - - gr.j.
Tinct. gentian. comp., - - - - - - fʒvj.
M.
Sig. Teaspoonful in sweetened water.

Phthisis.

℞ Creasoti, - - - - - - - - - mx.
Cod-Liver Glycerine,
Spirit. frumenti, - - - - - - - aa ʒij.
M.
Sig. Tablespoonful three times a day.

℞ Freligh's Tablets.
Sig. As directed.

Puerperal Convulsions.

℞ Fl. extr. veratri virid., - - - - - - ʒss.
Neurosine,
Syrup. aurant., - - - - - - - - aa fʒij.
M.
Sig. Tablespoonful hourly until relieved.

Vomiting in Pregnancy.

℞ Glycozone, - - - - - - - - - fʒj.
Dioviburnia, - - - - - - - - - fʒiij.
M.
Sig. Teaspoonful in water every hour or two.

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

IV—HISTORY.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

In the fullness of time appeared the man for whose coming the fates seemed to have conspired together. Neither too late nor too early did he appear, but when scientific discoveries had prepared the way and had made the minds of men ready to receive and profit by the observations which he had made and the conclusions which he had drawn from his observations. That the seed fell on good soil and flourished the splendid achievements of modern medicine, surgery and obstetrics fully attest. What medical science would have been without these grand generalizations and their subsequent results is shown by the condition in the era immediately preceding their enunciation and demonstration. To-day the germ theory of disease is the very foundation upon which the magnificent super-structure of modern medicine rests—ay, we might almost say that it is at once the foundation and the structure.

In the London *Lancet* of July 27, 1867, appeared an article by Dr. Joseph Lister entitled "A new method of treatment of Hernia in the presence of Atmospheric Air." This was the first step taken by him in the direction which was to ultimately yield him so many honors, so many laurels, so many brilliant results in the saving of human life in its battle with disease. Here was the germ of the acorn which was to spring into such a mighty oak, bearing healing in its leaves. In September of the same year another article by Lister appeared in the *Lancet* entitled "On the antiseptic principle in the practice of Surgery." This marks the date of the birth of the true antiseptic era—indeed it is the first use of the term antiseptic, being used in the sense of opposed to putrefaction. Lister's views in regard to the essentials of antiseptic wound treatment at this stage in the development of the practice may best be imparted in his own words:

"Decompositions in a wound and affections of wounds due to decomposition, are intimately connected with micro-organisms coming from without.

The wound treatment and dressing should prevent the access of micro-organisms, and, when these have entered notwithstanding every care, they should kill them or render them incapable of harm.

The dressing and the substances used for killing the micro-organisms should not irritate the wound at all, or, at best, very little."

Lister's system of treatment consisted essentially in the exclusion of such micro-organisms as might possibly by their presence induce fermentative changes; or if, in spite of such precautions, such have gained access to remove, or destroy them or at least render them inocuous. Such ends, he said, were to be attained by the use of certain germicidal substances. In this way pyemia, septicemia and erysipelas, once the scourges of surgical hospitals have, within a short period, become diseases of rarer occurrence than formerly. His favorite antiseptic was carbolic acid dissolved in various menstrua or impregnated in gauze, cotton wool or other furgical dressings. He claimed that if the treatment was thoroughly carried out the result would be no pain, no fever, no pus, no bacteria, no putrid smell, no septic infection and progress uninterrupted by any septic process. His claims in this respect seem to be almost fully borne out by the results achieved, for many operations are now safely and fearlessly performed which were formerly very formidable and fraught with considerable danger; such were the operations upon joints, bones, the peritoneum and other serous membranes. Then too in many cases where amputation was formerly and correctly (under the circumstances) deemed absolutely necessary the limb has been saved by the use of antiseptic methods; before the introduction of antiseptic methods the mortality following major operations was very high—in the period of 1884–1866 statistics place it at forty-five per cent (45%). In the period immediately following the introduction of the antiseptic method (still in its infancy, still crude and undeveloped) the rate dropped marvelously to the low figure of fifteen per cent (15%)—which meant that

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thirty more lives out of every hundred were saved by this method that would have been sacrificed by the use of the methods in vogue in surgery before the introduction of the antiseptic method. In the period of 1871–1877, after Lister had somewhat modified his method, the rate dropped to twelve per cent (12%)! This was one of the greatest triumphs which modern medicine has ever witnessed,—indeed its effect should not for a moment be underestimated. Volkmann, the renowned surgeon of Halle, was about to close his wards on account of the prevalence and virulence of pyemia and septicemia; as a last result he tried the methods of Lister and in the next five years the total mortality *did not exceed six per cent* (6%)!

That surgical "dirt" was fatal so success if not life itself in surgical operations had been noticed long before Lister's time, but few know the reason why. It was at this point that Lister sprang full panoplied into the scientific arena, coming forward with a theory or a scientific principle rather, which rendered it all very plain and rational. This surgical "dirt" then was fatal or infectious not becaus it was "dirt" but because it contained, as Schwann first proved, living germs which were themselves the direct causes of putrefaction and decomposition. In the year 1837 Schwann clearly demonstrated and established the connection between putrefaction and microscopic life, that one followed from the other, that they were coincident and coexistent. But thirty years elapsed before Lister extended to wounds and *living* flesh the results of the researches of Schwann upon *dead* flesh and animal infusions. Prior to Lister himself the possibility of some such extension of principles had occurred to others—indeed Hueter had distinctly said twenty-five years before "no germ, no pus." Lister discovered no great scientific fact, yet he more than any one man created antiseptic medicine. To him pre-eminently belongs the honor and glory of extending the generalization of Schwann from dead to living matter; but by this apparently simple step he at once revolutionized the whole art and practice of surgery—indeed, now it became in truth a science. It was he too who first formulated a systematic method by means of which to fight these microscopic enemies of life and health. But his researches dealt with and applied to decomposition and putrefaction and conditions dependent upon them. It remained for Koch to further extend the generalizations, it remained for Koch to discover the existence of specific pathogenic germs, that each one of the infectious or zymotic diseases was caused by its own and peculiar germ. It was sufficient glory for Lister to have laid the foundation and he was magnanimous enough to acknowledge the aid which he had received from Pasteur in this great work (See *Etudes sur la Biere*—Pasteur, page 43)—indeed he expressly thanks Pasteur for having given to him the only principle which could have conducted the antiseptic system of treatment to successful issue. To these three—Lister, Pasteur and Koch—the founders of the triumphs of modern medicine, be all the glory.

In the year 1870 Lister presented to the medical world his method of surgical dressing; this is now discarded even by himself, but the principles upon which it was based remain true to this day.

In the year 1873 Obermeier announced his discovery of the specific germ of relapsing fever. This the discoverer named, after himself, the "Spirocheta Obermeieri."

In 1876 Cohn and Koch devoted considerable time to an investigation of spores—the peculiar reproductive bodies of some forms of germ life. Until this time comparatively little attention had been paid to them, through ignorance of their importance.

In the next year Koch announced his discovery of the fact that the terrible disease anthrax was due to a peculier and specific germ which he had succeeded in isolating. In this same year Weigert introduced his method of staining germs in order to make them plainly visible in the microscopic field and thus to facilitate observation of their habits, peculiarities, etc.

In the year 1878 Koch, who was becoming exceedingly prominent in the field of bacteriology, published his important work on traumatic infectious diseases.

In the next year Hansen announced his discovery of the specifie bacillus of leprous tubercles. In the same year Neisser discovered the gonococcus, supposed to be the specific cause of gonorrhea.

In 1880 Luveran successfully demonstrated the relation of the "plasmodium malaria" to the etiology of malarial disease. In this same year Eberth and Koch made their discoveries of the specific germ which caused typhoid fever. Sternberg and Pasteur also made important researches into the nature and origin of pneumonia and discovered its diplococcus. But the most important work and discovery of the year was Koch's announcement of his experiments and belief in the efficacy of protective inoculations of attenuated cultures of germs. Thus he points a way for the medicine of the fnture. Indeed the important work of the past few years has been mainly in this direction—its legitimate outcome was the tuberculin of Koch, the anti-cholerine of Klebs, etc.

In the next year Koch called attention to what he considered the greater potency of mercuric chloride as an antiseptic; this he recommended in the strength of 1:1,000. In the same year he made important researches on the resistive powers of anthrax spores to heat. He also introduced the use of solid culture media and the plate method for pure cultures.

In 1882 Schutz and Loffler announced their discovery of the bacillus of glanders and Pasteur issued his first communication on the subject of rabies—a field of work in which he has so justly become famous. But the greatest work of all was to come in the demonstration of the cause of tuberculosis. This was accomplished by Robert Koch. In the Month of March, 1882, he read a paper on the subject-before the Berlin Congress; so complete and thorough was his work and so convincing were his conclusions and proofs that no one left that

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hall unconvinced that the true cause of that dread disease which carries off more than war and famine combined had at last been discovered. This did not necessarily mean its cure, but it was a vast stride in that direction. And this work he achieved in the face of what were thought to be insurmountable obstacles.

In the next year the British Government, recognizing the service which Lister had rendered humanity, knighted him, bestowing upon him the title of Baronet.

In 1884 Gaffky made important researches upon the bacillus of typhoid fever. In this same year Nicolaier discovered the bacillus of tetanus, Loffler the bacillus of diphtheria and Loch the cholera spirillum or "comma bacillus." In the next half-dozen years comparatively nothing was accomplished.

In 1890 Baumgarten made a new classification of micro-organisms.

In 1892 Pfeiffer and Canon independently discovered the specific germ of influenza, the bacillus influenzæ.

In 1893 Sir Joseph Lister, after twenty years of experiment and research renewed his allegiance to carbolic acid as the antiseptic *par excellence*. He announced that carbolic acid is not only a more efficient germicide than corrosive sublimate (that is, mercuric chloride which had previously been the favorite antiseptic despite its poisonous nature in even comparatively small amounts) but that it is much more efficient in cleansing the skin. Also that it has a powerful affinity for the epidermis, penetrating deeply into its substance and mingling with fatty matters in any proportion. Whereas corrosive sublimate cannot penetrate greasy substances in the slightest degree, hence when used it requires elaborate preparation of the field of operation in the way of scrubbing and cleansing the skin. In accordance with these the latest conclusions of the pioneer in the field of antiseptic surgery, American enterpise has met the emergency by putting into the surgeon's armentarium a new antiseptic composed of carbolic acid and boracic acid; this product has been very fittingly named Sennine after one who has done so much for American surgery.

As Dr. Pepper recently said in his presidential address to the Pan-American Eedical Congress: "Every one knows, *or ought to know*, that disease is due in a vast majority of instances to micro-organisms which live, flourish and die subject to certain and peculiar laws." So that it almost seems like folly in these closing years of the nineteeth century to insist upon the truth of the germ theory of disease; it is a part of the history of the medical progress of the century and there are, indeed, none so blind as those who will not see.

Research has undoubtedly established and demonstrated a distinct and direct relation between certain forms of infectious diseases and their specific micro-organisms. All authorities and investigators agree that, whether these organisms are the virtual causes or but concomitants, the processes and phenomena attendant upon their invasion, development and decay within the tissues give rise to the elaboration of substances as deadly as the most toxic of drugs. These substances, called ptomaines, leucomaines, etc., are chiefly the result of the processes of excrementition and elimination which are naturally coincident with the life history of the germ and unless neutralized, destroyed or eliminated in some manner are as fatal to life or health as the most powerful of toxic agents. It is now definitely known that the alarming symptoms of many of the infectious diseases are due more to the presence of these products rather than to the presence of the germ *per se*. As in tetanus, the germ may be localized in its action but its excrementitious products, may be absorbed and carried through the avenues of the vessels to all parts of the system and thus from many points of attack completely overwhelm it.

But the presence of germs is not necessarily destructive to the life of the human organism. In health the pathogenic germ does not find sustenance and can not thrive in the normal and healthy secretions of the body and when such germs invade the system they are destroyed by certain of the white blood corpuscles by means of the process of phagocytosis. But when the organism becomes debilitated and disordered the omnipresent germs find sustenance in its depraved secretions and thrive and multiply there until they completely overwhelm and destroy it. When health, the great and universal antiseptic, is impaired in its virtues then Nature must of necessity lean and depend upon Art.

[TO BE CONTINUED.]

Sympathetic Irritation.—Anomalous Psychic Symptoms Due to Retention of an Atrophied Globe.

BY WM. DICKINSON, M.D., ST. LOUIS.

S. G, fifty years of age, officer in a penitentiary, was a man of large robust frame, and, prior to the traumatism received, courageous, and of a cheerful and amiable disposition; he was intelligent above mediocrity and capable of any mental effort required in the discharge of his duties and also a fair newspaper correspondent.

Nearly four years previous to his visit to me, he was fiercely attacked by an infuriated brutal negro convict with a broomstick, the extremity of which he thrust with great violence against his right eye, crushing the globe and prostrating him to the floor. So grave were the immediate symptoms that he was confined to his house and under the care of his family physician for three months; during this time he suffered indescribable pain in the eye and head, was always more or less dizzy and had frequent fainting spells. He often experienced a sense of severe pressure at the vertex, and at times as if a plough was passing through his brain from the occiput to the forehead. He is now timid and easily excited, and often has great fear of some imminent danger; is much startled and frightened by any sudden and loud noise; is despondent and melancholy and suffers from insomnia. When walking, he is often

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pursued by the apprehension of some one approaching him from behind and about to seize him violently by the neck; he occasionally falls down experiencing a painful sensation passing from the neck to the forehead, at the same time exclaiming, "Oh, Lord." He is able to use the remaining eye only for a few minutes without aggravating the persistent symptoms; he is now cross and irritable; his memory has failed; is unable to think connectedly, and his will power is much diminished. His appetite and digestion are good and his body is well nourished.

Such is the history given by himself and wife. There is no evidence of fracture of the skull, and his physician states there was none when first seen. Inspecting the orbit, there was found at the normal site only a small shrunken atrophied shapeless mass, relic of the former globe, and tender to the touch. This I conceived to be the source and cause of the aggregate symptoms, physical and psychic, and advised its immediate removal. To this ready assent was given, and on the next day I performed enucleation. This was followed by striking amelioration, indeed, by the almost total disappearance of the symptoms that for years had harassed him and had rendered life a burden. With great gratification and decision, he stated "he felt like a new man." In a day or two he returned home and to his former duties. Four months later, remaining in the same condition, he writes: "If my eye had been removed immediately or soon after the receipt of the original injury, I believe I should have been exempt from all the agonizing suffering I have endured and should have been a well man to-day."

The anomalous symptoms were doubtless due to the irritable condition of the ocular stump, occasioned by pathogenic microbes incarcerated therein; these irritated the ultimate ramifications of the trigeminus and the ciliary nerves and the results were reflected upon the cortical psychic centers of the brain.

Dr. H. Moulton, Fort Smith, Ark, before the Ophthalmological Section of the American Medical Association, recently reported a case presenting symptoms almost identical with the above related case. The removal of a small cicatricial button (atrophied globe) simultaneously arrested all adverse symptoms, and on the next day the patient reported "he had had a sound night's sleep, the first for many months."

The Doctor thus summarizes the case: "The headache, insomnia and melancholia must have been aggravated, if not caused in a reflex way, by cicatricial compression of the terminals of the nerves producing cerebral vascular disturbances."

Without such demonstrative evidence as these cases afford, it would seem unwarrantable to refer the grave exceptional symptoms to an apparently harmless stump of a globe retained in its normal position. But as a flea is large enough to madden an elephant, it is capable of proof that a focus of potent elements may be incorporated in such a shrunken nodule that in its morbific results may compromise the integrity of the remaining eye and involve to a great degree the normal exercise of the reason and the other mental faculties.

In such cases the only safe course to be pursued is, under proper precautions, the *early* enucleation of the offending member. It being lost beyond restoration or amelioration, and at the same time the source of suffering, no benefit can possibly result from delay. No specific rules of conduct can be propounded suitable for all cases, but these statements may be accepted as surgical axioms—safety resides in removal—danger constant and imminent waits on postponement. Some surgeons keenly apprehensive of covert danger in an eye irretrievably lost advise enucleation in *all* cases that are not of an exceptionally favorable character, and thus by anticipation remove all causes of solicitude from that source. And yet it should be added that the operation is itself not absolutely free from danger, for serious symptoms and, in rare instances, death has resulted in the experience of the most skilled. Such being the case, the novice may well shrink from its performance.

1322 Olive Street.

Bismuth Subgallate in Fermentative Dyspepsia.—Dr. A. Flint (New York *Med. Jour.*; *Amer. Med.-Surg. Bull.*).

After stating that salicin has frequently proved of great benefit in functional dyspepsia with flatulence, the author reports that he lately employed bismuth subgallate, which seems to be much more efficient. He administers 5 grains (0.3 gme.) of this medicament, either before or after each meal. He first employed this remedy in a case of dyspepsia of eleven years' standing, and found its action so favorable, that he began to prescribe it very largely; and, as the results were invariably satisfactory, he says that he continues to use it almost daily.

He gives a detailed account of the case above alluded-to, and sums up the prompt and favorable results in other cases as follows: A case of alcoholism of twenty years' standing, with habitual dyspepsia for the last five or six years, was almost instantly relieved by bismuth subgallate; the flatulence and distress disappeared in twenty-four hours, and did not return except in a very mild degree when they were usually relieved by a single dose. While under other treatment for alcoholism, this condition was relieved. The patient has taken no alcohol for several weeks, and has no craving for it. A case of dyspepsia of four years' standing, with a chronic diarrhea, was entirely relieved in five days by the use of the bismuth subgallate alone.—A case of dyspepsia of more than thirty years' standing was promptly relieved by bismuth subgallate alone. In this case, every few weeks the trouble returns, and is relieved by two or three doses.

The author has been in the habit of prescribing the bismuth subgallate in capsules containing 5 grains (30 ctg.) each; but of late gives it in the form of tablets. In this latter form, it is more convenient and seems to act more favorably.

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Croup and Diphtheria.

The distinction between croup and diphtheria has for many years been a subject of much confusion; some holding that both diseases are due to the same etiological factor, while others have classed them as two separate and distinct affections. It appears that bacteriology has succeeded to clear up the chaos of the subject under discussion by the fact that in the membranes formed by true diphtheria Loeffler's bacillus may always be demonstrated in large numbers within the first few days of the attack. In order to make the subject intelligible it is absolutely necessary to differentiate between the pathological, anatomical and the clinical aspects of the disease, both must be analyzed separately, a fact upon which Virchow has always laid great stress in his laboratory courses for students. Let us first consider therefore the pathological anatomy of the croupous and diphtheritic product in as simple a manner as possible. The so called croupous membrane is formed by an exudation into the epithelial layers of the mucous membrane, while the diphtheritic membrane is formed by an exudation into the epithelial as well as into the subepithelial tissue, which accounts for the ragged and bleeding surface and difficult removal of the diphtheritic membrane and the easy removal, smooth and bloodless surface in the croupous product. In both we have a necrosis or necrobiosis. The diphtheritic membrane may be caused by a great many agencies; first of all by true diphtheria in which the Loeffler's bacillus is always the etiological factor; then by an infection with scarlatina and many poisonous substances such as bichloride of mercury, phosphorus, etc. A true diphtheritic infection may however cause also the formation of a croupous membrane, *i. e.*, where there is no involvement of the sub epithelial tissue, so that in true diphtheria we may have both, or side by side, the formation of a diphtheritic membrane and a croupous membrane. While in true croup we would never expect to find a diphtheritic membrane, *i. e.*, an involvement of the subepithelial tissue.—The name croup is an unfortunate one and the main cause of all the confusion with regard to the two affections under discussion, the word implying difficult breathing.—Clinically, at the present time, we can only speak of croup when all membranes formed are croupous membranes *in which Loeffler's bacillus cannot be demonstrated* and where other etiological factors may be excluded. Whether cases of this kind really occur, *i. e.*, where the Loeffler bacillus is not the etiological factor is not yet a settled question for many authors claim that what formerly was called croup is in realty also diphtheria. In our own experience we have observed, however, at least one clinical factor speaking against this hypothesis, namely, that tracheotomies done for what seems to be croup invariably do well, while those done for diphtheritic stenosis end fatally in the great majority of cases.

Klein states in a paper, an abstract of which appeared in the REVIEW of January 6, 1894, that *membranous croup of the larynx and fauces without diphtheria of the fauces may be of two kinds: a, true diphtheria, or b, genuine fibrinaus croup without the presence of the diphtheritic bacillus and therefore not true diphtheria.* This standpoint is based upon bacteriological research; it is conceivable however that a croupous membrane, not containing bacilli of diphtheria, might be formed by a diphtheritic infection, in consequence of the action of ptomaines formed at a more distant place by the microorganisms of diphtheria.

A final positive answer to the question under consideration can only be given when the etiological factor of so called fibrinous croup has been discovered or, on the other hand, when it has been proven that the diphtheria bacilli cause the croupous as well as the diphtheritic membrane in all instances.

New Treatment of Naupathia or Seasickness.

An innumerable number of remedies for seasickness have been recommended and many theories advanced with regard to the production of this affection; but people subject to it do not seem to have received much benefit from any drug. Dr. Winslow Warner Skinner, formerly ship-surgeon, has published a lengthy article

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in the New York *Medical Journal* upon this subject, of which we extract the following:

After having studied the symptoms of naupathia in their completeness, as if no physician had ever seen or written about them before, we were convinced that they were due, above all, to the lowering of the blood pressure, as has been already said, and that this lowering depended upon a paresis of the centers of innervation of the heart and of the arteries, as was above explained. There only remained, then, to choose from the materia medica the suitable substances that would raise that pressure by acting upon the nervous centers and the unstriated muscular fibers and to administer them in the most advantageous manner. We chose to this end atropine and strychnine employed simultaneously. But how should they be given? On account of the frequent vomiting in seasickness, by which any ingested substance would be rejected and lost, on account also of the difficulty of absorption in a seasick stomach, where the chief osmotic current is flowing toward its cavity, and, lastly, on account of the action of the liver by which it arrests and transforms these and other alkaloids entering it from the stomach and bowels (Hegar, Schriff, Lautenbach, Jaques, Roger), it was necessary to choose some way of administration of these alkaloids other than that of the gastro-intestinal tract. The hypodermic method seemed to us the best, and it is in this manner that we always exhibit these substances in seasickness.

The dose of these agents by subcutaneous injection in a well-developed case of naupathia should be for adults from a half to one milligramme of atropine and one milligramme of strychnine dissolved in mint water. The following is the formula we employ the oftenest:

℞ Atropin. sulphat. - - 0.02 grm.
Strychnin. sulphat. - - 0.04 grm.
Aquæ menth. pip. - - 40.00 grms.

One gramme, or one cubic centimetre, of this solution contains half a milligramme of atropine and one milligramme of strichnine. In hot climates this solution loses a little of its strength at the end of a month, and it should therefore be frequently renewed when used in the tropics. Although we have employed these active substances hundreds of times, we have not yet seen the least harmful results in adults. In regard to the distilled mint water that figueres in the formula, we are unaware if it has an action that should be taken into account. It was selected on account of its more or less merited reputation of usefulness in seasickness. If in the space of two hours after the first injection the patient is not cured, a second injection of one gramme (or one cubic centimetre) of the solution may be injected, and even a third two hours after. But we esteem that it is not prudent to exceed this number of hypodermic injections per day in naupathia.

Children and adolescents are very susceptible to this medication. A child of 2½ years sick during fourteen hours, was promptly and definitely cured by the injection of one sixth of a gramme of the solution—that is to say, by circa 0.00008 of atropine and 0.00016 of strychnine—a truly infinitesimal dose. A boy of six years was cured by the injection of a fourth of a gramme of the solution; another, eight years old, by half a gramme, which was somewhat too much for a lad of his age.

The effects of this medication are often surprising. In the majority of simple cases of seasickness the patients cease vomiting at once after having received a single injection of one cubic centimetre of the above solution. Soon afterward they feel no more nausea, cephalalgia, or distress. Only a few minutes are required for this result to be obtained. Occasionally two injections are necessary to produce complete euphoria.

Everybody knows what a pitiful spectacle a really very seasick person presents. He is painfully seated near the ship's rail or a basin or is lying down, caring not how or where, so long as he can vomit easily; he is pale, apathetic, vomiting, and suffering from headache and vertigo. But the injection of these alkaloids transforms this person in a little while. He ceases to groan, the vomiting stops, color returns to his cheek, and he affims that he is "much better," or that he does not suffer any more at all. If the injection is given during the daytime he almost always falls asleep for half an hour or longer; if given in the evening, when the patient has retired for the night, the sleep is calm, prolonged, and restoring—so much so that when the physician visits his patients on the following morning he hears them assert with satisfaction that "the night was passed very well." This means a great deal to a person who has been kept awake a night or more by seasickness.

One of the best proofs of the efficacy and innocuousness of this method is found in the fact that patients ask for a repetition of the treatment, and mothers who have been treated have it done to their children.

There is another substance which we have employed in seasickness with good results, and that is caffeine given hypodermically. It acts somewhat more slowly than the alkaloids just named, and its effect is less constant, but it is often efficacious, as the cases related below will show. In our practice we used the formula of Tanret and Dujardin-Beaumetz, which is as follows:

℞ Caffeinæ, - - - - - 4 grms.
Sodii salicylat, - - - 3 "
Aq. dest., - - - q. s. ad 10 c.c.

Dissolve by gentle heat. Each cubic centimetre contains 0 40 gramme (40 centigrammes) of caffeine. A single dose of 0.30 gramme injected subcutaneously cured a patient completely in seven hours who had been sick three days. In another case this dose cured in five hours in the same conditions.

A mixture of cocaine, caffeine, and atropine did not produce such good results as the mixture of atropine and strychnine.

Possible Objections to this Method.—The administration of such toxic substances as atropine and

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strychnine requires, of course, great attention and prudence on the part of the physician, and none but a physician should give these agents. He should carefully observe their action, and, above all, before injecting them he should accurately proportion the dose to the age and the constitution of each patient. Atropine ought not to be administered too often; once the proper dose exceeded, there follow depression and enfeeblement of the patient.

It was said above that we have never seen harmful effects due to these substances, given as directed. However, there are sometimes produced certain disagreeable effects, though they can hardly be said to be important. The most frequent of these effects is the dryness of the mouth and air passages due to the atropine. But the patients prefer this to being seasick. Children sometimes present a generalized redness of the skin due to the same drug which may cause parents some anxiety, but it soon disappears. Once we noted irregular pulse in a boy after a single injection, but his general conditionwas so good, he laughed and played so naturally, that all idea of danger was rejected.

Atropine given even in a small dose in seasickness sometimes causes temporary amblyopia. In such cases the proportion of strychnine should be increased and a somewhat smaller quantity of the solution should be injected.

Not infrequently passengers that have been quite severely sick present a certain degree of prostration and an indisposition to make any muscular effort, even after they have been entirely cured of their naupathia by the injection of strychnine and atropine. They are certainly cured because they feel no more nausea, or vertigo, or distress, and they have no more vomiting, pallor, ptyalism, etc. This state of languor, or reluctance to move, may last from six to twelve hours, seldom longer. It may be entirely due to the exhaustion which a severe attack of seasickness leaves after it, but it might possibly also be deepened by the action of the atropine absorbed. At all events, the termination of this state is always favorable.

The seat of the injection is not ordinarily painful. Rarely it leaves a painful spot after it, which is tender for a day or two, and very rarely it produces a redness and swelling quite annoying. But we have never observed an abscess or phlegmon as a result of these injections. The inflammatory phenomena subside spontaneously and all is soon in order again. It should be remarked that these accidents are not disagreeable enough to prevent the patients from seeking the same treatment again as soon as they feel seasickness return.

The counter-indications of this method are quite rare. When the diagnosis has been correct we have never observed a case rendered worse in any respect by the exhibition of these substances, even when the patient had another disease coexisting with seasickness.

It happens from time to time that the injection of those two remedies does not cause any amelioration; the trouble continues in spite of all and lasts long. In these cases it is almost certain that the patient has one of those affections that were named among the predisposing causes of naupathia and which are, above all, affections of the circulatory apparatus, as has already been explained.

What is it that we mean by the cure of seasickness? Do we mean that as soon as the remedies are given the vomiting patient gets right up out of bed and promenades the deck as gayly as if in a ballroom? By no means. There is no power in the universe that could produce that result while the sea is still rolling high. But we do mean that the vomiting and even the nausea stop, that the splitting headache stops, that the patient is comfortable, that he or she generally fall asleep a little while, and that soon afterward food is relished and retained. The patient may still remain in bed, but he is not seasick, and it is not necessary to wait for still water before this result can be obtained. Can more than this, or as much as this, be said of any other method of treatment of seasickness?

Let it suffice to say, in conclusion, that the judicious employment of this method never does any serious harm; that it may very rarely be inoperative, owing to some cardiac, vascular, or nervous lesion; but that in simple naupathia it always produces amelioration and generally a cure of this affection.

St. Louis Medical Society.—At the annual meeting of the St. Louis Medical Society, held Saturday, December 30, 1893, the following officers were elected for the ensuing year:

President—Dr. W. B. Outten.
Vice-President—Dr. H. Marks.
Recording Secretary—Dr. J. A. J. James.
Corresponding Secretary—Dr. R. B. Murphy.
Treasurer—Dr. G. Hurt.

A vote of thanks was given to the retiring officers.

At the meeting held Saturday, January 6, 1894, President Outten announced the Committee for the ensuing year as follows:

Executive Committee—Drs. Frank R. Fry, A. H. Meisenbach and E. S. Burnett.

Committee on Ethics—Drs. Hudson Ford, C. E. Briggs and John Pitman.

Committee on Elections—Drs. A. C. Robinson, W. G. Moore and W. B. Dorsett.

Committee on Publication—Drs. Bransford Lewis, L. T. Riesmeyer and E. E. Furney.

Committee on Library—Drs. Y. W. Wesseler, L. Bremer and G. W. Cale.

To Escape Vaccination.—The unpopularity of vaccination in England, amongst parents, is said to have led to a new form of offence, consisting in falsely declaring the place of birth on registering the child. By this means the vigilance of the vaccination officers has been to some extent defeated. To counteract this the Registrar-General recently had three matrons prosecuted and fined at Marleybone.

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CORRESPONDENCE

Des Moines, Iowa Letter.

Editor MEDICAL REVIEW.—With mild weather and consequently less burning of bituminous coal the air in Des Moines has been salubrious during these midwinter months. Then her well-paved streets altogether render pedestrianism and cycling luxuries. A little frost suf ficient to freeze the shallow river adds skating to the pleasures of the season. This Christmas has been one in which to practice self denial rather than generosity —one in which that new beatitude is exercised—blessed is he that expects nothing for he will not be disap pointed.

There is not much sickness in this region. Influenza and some meningitis are occasionally heard of. A Mercy Hospital has been established by Father Flavin in this city and is in charge of sisters from the hospital at Davenport. Temporarily they occupy the large residence of Major Hoyt Sherman, 15th and Woodland Ave. The medical and surgical staff has been selected from the medical men of the city by the foundery of the institution. They have attempted to be politic and appoint from all the systems of medicine, so that in the list published in the paper who have been favored of recognition are the regulars and the pathies in well shuffled order. These gentlemen are not called upon to organize a staff with officers and constitution as is the usual custom, but these names as it were, hang on a hook somewhere in the young institution as men who have been mentioned as belonging to Mercy Hospital. Out of this list are men designated as attending physicians and they only have met to determine the months of service each will perform. This is the third hospital in this city, which makes sufficient for the present. But Iowa needs a State Eye and Ear Infirmary and Des Moines is the place for it, and one of these hospitals would accommodate it well.

The second annual meeting of the Western Association of Obstetricians and Gynecologists met in this city December 28 and 29, 1893. This Society takes in a wide territory and there were present eminent laparotomists. The success of the meeting was due in great part to its efficient Secretary who was re elected to that office. The Society proved to be a prompt hard working and able body of men. The programme was full, the papers able, discussions on them lively, and the efficient President, Dr. M. B. Ward, of Topeka, Kas., kept the body in hand in a pleasant and business-like command. It was altogether a feast for the practitioners of this region and was well attended by members of the profession in the immediate vicinity. The officers elected for the ensuing year were: Peresident, Dr. Lewis Schooler, of Des Moines; Vice-President, Dr. J. E. Summary, Sr., of Omaha, Neb.; Secretary, Dr. T. J. Beatter, Kansas City, Mo.; Treasurer, Dr. M. R. Mitchell, of Topeka, Kas. The next place of meeting will be Omaha, Neb.

On December 29, at 8:30 A. M., Dr. J. H. Ethridge, of Chicago, assisted by Drs. Schooler Smouse, Priestly and Latta operated upon a woman who had myo-fibroma of the uterus at the Cottage Hospital. Its ample ampitheater furnished room for the Society and was an event which will always be remembered in connection with the Society's history. In the preliminary remarks of Dr. Etheridge he said that he need not say that he was embarrassed to operate in the presence of so many distinguished laparotomists. In reply to which Dr. Eastman, of Indianapolis, Ind., said that he had never yet seen an embarrassed man coming from Chicago. The operation was so well performed without that quality which disturbs the inexperienced that Dr. Eastman at the end of the operation remarked that he must still look for the diffident man from the World's Fair city. The tumor has a history of seven years in duration. The woman was much emaciated, but went through the operation with remarkable tone. There was no shock, no inflammation, no hemorrhage, but she died December 31, from exhaustion.

Dr. Robert McNutt, a former Professor of the College of Physicians and Surgeons, of Des Moines, and who was prominent in some branches of scientific literature, died November 28. He had not been in active practice since his service in the late war, and for ten years had been incapacitated for business altogether.

Des Moines, Iowa, Jan. 1, 1894. E. H. H.

Do Animals Commit Suicide?—Dr. Robert S. Newton at a meeting of the New York Society of Medical Jurisprudence said there were countries in which suicide was regarded as proper. It was extolled in the religion of Brahma, and many of the people adopted it. Indeed, religious belief had much influence in the taking or not taking of one's own life. For instance, who would expect to hear that one who had committed suicide was a Presbyterian? He thought one reason why physicians said little about the moral aspect of the question was because of its close relation to that of religion, with which they felt that it was best not to meddle. The reader had said animals did not commit suicide. This was a mistake, for in Norway there was an animal which resembled in some respects both beaver and otter, and it had been observed that every nineteen years droves of them went to the water's edge, separated themselves into two groups, those of one group plunging into the water and deliberately committing suicide, making no attempt at rescue, notwithstanding their ability to swim. There was other evidence, too, that animals sometimes took their own lives.

The Medical Department of the Cincinnati University Degrees are said to be on sale and selling high in London, whereas none have been issued by the institution.

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ABSTRACTS

MEDICINE.

The Dangers of Automatic Specialism.—In a recent number of the *Asclepiad* its talented author writes entertainingly on the healthy culture of the literary life (*Med. Rec.*). He utters a caution against narrow specialism in literary work, which is not inapplicable to specialism in medicine. "Philosophical historians have noted," he says, "how different ages present different, and, as it were, alternate pictures of mental and physical power. This age was one of genius, that of mediocrity; this of war, and that of peace; this of quite inventive thought, that of inventive application," etc. As he well points out, these phases are all natural phenomena explained by well-known physiological data.

There is at the present time a tendency to introduce the mechanical principle into all departments of knowledge. Mental operations are trained to move with the precision of machinery. Parallel with this is the tendency to work in grooves. We call these latter specialties, and our present methods tend to lead up to an ideal perfection in one particular line of medical practice. This is to a certain extent most commendable, but if carried too far, it saps vital nervous power. It makes the physician too dependent upon the instruments of precision which have been elaborated for the performance of his special line of work. He exalts the physical far too much above the physiological factor in diagnosis, and concentrating his attention too much upon one organ or set of organs, he forgets that they are but a part, and that the whole is greater than any one part possibly can be.

Especially is this true at the present time, when so many of the younger medical men are branching off into specialties without a sufficiently broad and deep foundation in general practice. Society membership, instrumental equipment, and facilities for clinical observation can never alone make a well-rounded specialist. The ideas of diathesis in disease of hereditary tendencies and the like can be learned from books, but can never be apprehended in all their fulness except by long and patient watching at the bedside. The quick roads to apparent success which open so attractively, lead to limitation of view and of knowledge. Thought is repressed instead of stimulated. One becomes more and more dependent on others. "The perfect master in his own department is a helpless child so soon as he is out of his own narrow sphere."

The expansion of knowledge in every department of life has largely put an end to that ideal of "knowing something about everything, and everything about something." Only a few minds in a generation can hope to do this in anything like a systematic and efficient manner. The glory of modern specialism is that it has unravelled difficult questions in the etiology of disease, and its crowning work must lie in its ability to meet the demand which this new pathological inquiry makes with adequate therapeutic measures. To do this requires mental expansion in every direction, and not alone in any one.

Auscultation of the Liver.—Dr. R. B. Nevitt, translates from Piazza Martini in *Clinica Medica* for the *Canad. Pract.:*

The normal respiratory and cardiac sounds are not rarely transmitted and heard over the hepatic area. Pathological murmurs are also frequently transmitted from the heart. Friction sounds may be heard and felt, due to rubbing of the opposed liver and peritoneal surfaces, roughened by inflammatory deposits, or from neoplastic nodules, or from inflammatory products about the gall bladder. A peculiar metallic rustling may be heard when the bladder contains a number of calculi.

Auscultation combined with percussion should be made between the anterior axillary line and the mid-clavicular line, prolonged to the end of the costal arch for the righ lobe, and into the epigastric fossa for the left lobe. The percussion note elicited is very high-pitched for the liver; the note over the heart, spleen, and kidneys is lower; that over the lungs very much lower in tone. Care should be taken in percussing not to strike over the ribs. In this way the hepatic area can be differentiated from an infiltrated and hepatized lung, and from a pleural effusion. Visceral tumors can be defined with great exactness by this method, and abscess in the abdominal walls over the liver gives a very distinct note to that over the hepatic area.

When palpation and percussion cannot be practised or are indefinite, the lower margin of the liver may be defined by auscultating the patient in the sitting or supine position; then, placing the end of the stethoscope over the heart's apex, follow the sounds along the thoracic lines, the mid-axillary, mid-clavicular, and over the liver. The heart sounds will be clearly transmitted over the liver substance, ceasing to be heard exactly at the lower border of the liver. Murmurs may be heard on auscultating the liver generated *in loco*, or transmitted from the abdominal vessels, or from compression or aneurism of the hepatic vessels. Arterial blowing murmurs may be heard in biliary colic from lithiasis, and, though very variable in doubtful cases, may be confirmatory. It is stronger in the accesses of pain, less intense when the pain ceases, and disappears altogether after the expulsion of the calculi. The presence of such a murmur in cases of biliary colic, when medical resources are exhausted, might urge the surgeon to operate. It is true such a murmur may be caused by carcinomatous enlargement of glands in the hilum of the liver, by aneurism of the gland. The differentiation is made by the history, the objective examination, and the mode of the onset of the symptoms. Venous murmurs may be

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heard, due to displacement of the liver, and consequent interference with the blood current through the inferior cava.

When the cavity of an hepatic abscess communicates with the bronchi or with the intestine, various sounds may be heard, due to the presence of gas in the cavity.

SURGERY.

The Omentum.—*The American Journal of Obstetrics* for December contains a paper read before the Pan American Congress by Dr. James F. W. Ross of Toronto, on "The Omentum and the Role it plays in Operative Work upon the Abdomen." It is strange that an organ so important to the surgeon should be so little studied and its functions so little understood. It may be that its long-suffering nature—permitting itself to be lacerated and imposed upon in so many ways by the hands of the operator—has led to its neglect, except so far as the danger of hemorrhage is concerned. The vessels once tied and the lacerated portions removed, the surgeon thinks no more of it. Indeed, in the majority of text-books it is passed over with the meager statement that its probable function is to protect the viscera and facilitate the movements of the coils of intestine.

That it must have some other use, the immense lymphatic and blood supply would seem to indicate. The membrane also reaches its highest point of development in the mammalian group, though it is interesting to note that it is only slightly developed in the whale. As Dr. Ross points out, if it had been simply intended for the preservation of heat, one would expect to find a full development among the cetaceans, as well as the other members of the family.

Tait, as quoted by Ross, says that in some patients suffering from dropsy due to peritoneal papilloma, the effusion may be made to come and go as the patient is allowed to move about or is confined to bed. The interesting part of his observation is that in those cases in which the effusion can not be so influenced, the omentum will be found to be more or less involved. Dr. Ross adds the account of an interesting case in which he removed the omentum about six inches below its attachment to the stomach. Some time after the operation, the patient developed pain in the abdomen and a cystic collection in the remains of the omentum which was tapped. The tapping was followed by suppuration in the cyst which finally discharged and the patient recovered. These observations would rather indicate that, in some manner, the omentum regulates the amount of fluid in the peritoneal cavity.

An important function of the omentum, and which must be apparent to every one who has opened the abdomen of a patient suffering from suppurative disease, is its attachment to the viscera in order to limit the purulent collection. As the author of the paper under consideration aptly remarks, "It is like a man of-war ready to sail to any port in which there is impending trouble." Through its great lymphatic supply it must possess great power of absorption and neutralization of pus products in addition to the merely mehanical action of a dam.

Several interesting questions are raised by Dr. Ross—Does the vast network of blood vessels contained in this little-known membrane serve to hold the surplus blood during the process of digestion? Has it any special function in connection with the blood supply of the stomach, as would seem indicated by its attachment to that organ? These are important questions for the physiologist to solve, but the point most concerning the surgeon is the facility with which the immense quantity of serum thrown out after an abdominal operation is taken care of by means of the blood and lymphatic supply, and the lesson to be learned would appear to be the necessity for care lest it be injured and its power for good thereby impaired. It would seem important that it be preserved in every way possible on account of its action as a safety-valve.

Dr. Ross has opened up a field of of inquiry which will be of much interest and advantage to the surgeon and physician alike.

The Present Position of the Surgery of the Hypertrophied Prostate.—At the recent meeting of the American Surgical Association, White (*Annals of Surgery*) presented an exhaustive study of the surgery of the hypertrophied prostate. The subject was considered under the following heads: 1. The nature and chief varieties of the prostatic enlargement and their relation to the vesical changes found associated with them. 2. The symptoms in relation to diagnosis and prognosis: (*a*) subjective; (*b*) objective. 3. The indications for (*a*) non-interference; (*b*) medical treatment; (*c*) palliative treatment; (*d*) operative treatment. 4. The choice of operation.

In considering the first of these headings, the theories of Guyon and Harrison were separately discussed and rejected as not offering satisfactory explanations of the condition; in fact, they seem to have been based on false premises. The analogy between the prostatic hypertrophy and uterine fibro-myomata, pointed out by Velpeau, and later formulated by Sir Henry Thompson is provisionally accepted as the best working theory thus far advanced. This conclusion intimately affects prognosis and treatment.

The prominent symptoms of prostatic hypertrophy, while not pathognomonic, are, when taken in connection with the history, fairly conclusive. They are: undue frequency of urination, particularly at night; difficulty in starting the stream; feebleness of the stream (a full stream, dropping almost vertically); interrupted micturition; incontinence of urine (retention with overflow), etc., the number and variety of the symptoms depending upon the nature and extent of the enlargement.

While digital examination by the rectum enables one

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to recognize a general enlargement of the gland, it does not afford any indication of the extent of encroachment upon the urethra. Obstruction of the urethra can most accurately be determined by the use of steel urethral bougies, or by silver or soft English catheters. If these instruments are arrested at a point more than seven inches from meatus, the obstruction is in the prostatic urethra.

For purposes of treatment the character of the growth should be studied. A classification based on the following factors is suggested, not as being exhaustive, but as being useful in deciding upon the proper treatment. 1. The predominant character of the growth, whether soft, indicating excess of glandular and muscular elements, or hard, showing advanced fibroid change. 2. The seat of the growth. 3. The presence or absence of general sclerosis. 4. Infection of the vesical mucosa.

The consistency of the gland can most satisfactorily be determined by rectal palpation. The seat of the growth, whether affecting the middle or lateral lobes, will be best determined by the presence of residual urine in the former and its absence in the latter, and the difficulty experienced in passing an ordinary catheter in the former class of cases.

Expectant treatment is proper only in those cases in which the enlargement has produced no symptoms, in which catheterism is easy, and in which there is no residual urine. Medicinal treatment is useful principally in meeting the complications of prostatic hypertrophy. Palliative treatment consists in the use of steel sounds and the employment of the catheter. These measures are applicable to a large number of cases, and when systematically and carefully carried out frequently give great relief and enable the person to go for many years in comparative comfort. In more advanced cases, and in those in which palliative treatment fails to relieve the patient, surgical interference is to be advised, provided the condition of the patient is considered satisfactory. This should include the majority of severe cases, but advanced renal disease contraindicates operation. The operative measures suggested are overstretching the prostatic urethra, perineal prostatotomy, perineal prostatectomy, and supra-pubic prostatectomy. The first three are applicable in a limited number of cases, the special indications being detailed, while in the majority of instances the latter is the operation of choice.

It occurred to the author that if the analogy between uterine fibromyomata and prostatic hypertrophy was a real one, castration might have the same effect upon the latter that oophorectomy has upon the former. Following out this thought, a large number of dogs were castrated and killed at varying intervals thereafter, and in every instance the size of the prostate was much less than the average in animals of the same weight, while, microscopically, the gland showed distinct evidences of atrophy. These results are confirmed by the observations of Bilharz and Pelican—that the prostrates of eunuchs are extremely small—and those of Gruber and Civial, each of whom had the opportunity of examining the prostatic glands of a man who had been previously castrated—the latter observation having been made during the course of the operation of lithotomy. The researches of Hnnter, Owen, and Griffiths on animals also confirm those of the author. The question of the value or the applicability of castration in cases of hypertrophy of the prostate was left open, the author contenting himself with the simple statement of the facts.

One of the Best Applications of Iodoform in Surgery.—The odor of iodoform, the mental association with venereal disease, and a failure on the part of the profession generally to appreciate the necessity of using a thoroughly sterilized article, are responsible for its comparatively limited application. Lane, in a recent number of the *Lancet*, suggests for it a new application.

In erasing tuberculous joints where the bones entering into their formation contained cavities, often of very considerable size, he has used iodoform very largely, not so much with a view of inhibiting the growth of organisms in the synovial cavity, but as a firm packing to occupy the cavity in the bone, which would otherwise be filled with blood, and would form a very formidable nidus for the growth of tubercle bacilli. In such a joint as the knee or ankle, where every particle of synovial membrane can be thoroughly and effectually removed, there is not the slightest chance of recurrence, for the reason that the retention of a drainage tube for forty-eight hours with firm pressure insures the accurate apposition of living tissues, all blood and other effusions having been driven out through the tube by the pressure of a flannel bandage, firmly applied. Where, however, a large cavity has been left in a bone, no amount of external pressure can influence it, and it must of necessity remain filled with blood and be a source of danger to the individual. Such a cavity he treats in the following way, and up to the present has never known it to fail: An Esmarch's bandage being applied above the joint to control the circulation, the joint is erased, and any cavity in the bone is thoroughly cleared out and the hole carefully dried with sponges. Some iodoform is then washed with 1 to 20 carbolic lotion, and poured on to a piece of lint and squeezed as dry as possible. It is then introduced in masses into the cavity in the bone and stamped firmly in, much as a dentist fixes a gold stopping in a carious tooth, and when the cavity has been completely filled the surface of iodoform is planed down level with the surrounding bone.

It will be noted that the above method of administering iodoform differs altogether from its employment as an emulsion. Lane uses the iodoform as a packing to occupy for a sufficient length of time—with a solid material which contains no organisms, and in which organisms cannot grow—a cavity which would otherwise contain blood in which micro-organisms might readily grow, especially if they were present in other parts of the body, this packing being gradually removed and replaced by bone.—*Therapeutic Gazette.*

MEDICAL SOCIETIES

Southern Surgical and Gynecological Association.

[CONCLUDED].

The sixth annual meeting of this Association was held in New Orleans, La., November 14, 15, and 16, 1893 (*Med. Rec.*).

Is Operation Demanded in all Cases of Appendicitis? The Best Time to Operate.

Dr. A. M. Cartledge, of Louisville, Kentucky, said that inflammatory conditions of the appendix are essentially intra peritoneal lesions. Modern surgeons have an abiding faith in the surgical maxim that whenever pus is believed to be present in tissues or organs of the body, it should be removed; hence the new pathology of a very old and frequently fatal malady inspired surgeons to attempt some radical means of relief. Perfection in technique can only come from individual experience and a knowledge of the work of others.

The pathology of a disease is the only true key-note to its rational treatment. Probably the best classification of appendicitis is: catarrhal (simple); ulcerative (from tuberculosis from foreign bodies); perforating (from ul cerative perforation from strangulation, the result of twisting). This classification deals strictly with the changes occuring in the appendix, and should be consid ered apart from the peritoneal and other conditions which may ensue and cause well-marked variations in the clinical course of the disease. If the walls of the appendix give way in a mass of fibrous adhesions, the result of long-continued irritation, the pus which forms is rather securely encapsulated and may be days, weeks, even years finding an outlet. In fact, as is often the case, if the bacillus coli communis predominates and a few staphylococci are present, it may remain encapsu lated unless it receives a new impetus of irritation. Cases were reported illustrating this point. Cases were also reported illustrating the part played by injury as an exciting cause in appendicitis, and the belief was expressed that a chronic form of unrecognized appendicitis existed prior to such injury.

We know more about the pathology of ulcerative or suppurative appendicitis than we do of the catarrhal form, because the cases not operated upon which recover are mostly called catarrhal. These are cases which progress with little pain, with very little fever, 101° F. as a maximum, and have a tumor which subsides. These cases are the pride of the poultice and the opium practitioner. Ulcerative appendicitis must be either tuberculous or traumatic, the trauma consisting of foreign bodies and enteroliths, usually the latter. The tuberculous would only give rise to acute symptoms as the result of cicatrization and stenosis, with distal distention, or secondary inflammation with pus organisms. Either of these results favor perforation. This is essentially the chronic variety, but will eventually lead to perforation. probably in the ways indicated.

Then physicians come to view inflammations of the vermiform appendix in their proper light, the author said, the prognosis will assume a very different shade. We should consider any appendix once so affected as to deserve the name appendicitis, whether from tubercle or trauma, a lastingly diseased structure, and the fancied cures are quiescent states the results of very easily recognized conditions. If we could trace our so-called first-attack cases of appendicitis through subsequent ones, we would say the progress, not only as to health and comfort, but as to life, is bad, very bad. A man has the trouble three, four, or five times, apparently recovers—all counted as cures probably by different physicians. Finally he dies in an attack; the death is counted but once, and sometimes not than; for if, as is often the case, death results from the rupture of an unrecognized appendicial abscess, or from diffuse peritonitis after perforation, the chances are that the cause is never suspected, and death is recorded as occurring from peritonitis. Every case of appendicitis, not barred by surgical limitation, should be operated upon. The best time, provided the symptoms are not too urgent, is after the bowels have been thoroughly moved.

Dr. Joseph Price agreed with the author of the paper that there was but one treatment for appendicitis, namely, removal of the appendix. He considers it a murderous disease, to be classed with extra uterine pregnancy. Both demanded prompt surgical treatment when first discovered. He recommends, in acute cases of appendicitis without pus, removal of the appendix and freeing of the inflammatory adhesions.

Dr. G. W. Long, of Richmond, opposed operation in every case of appendicitis. Autopsies had shown that one-third of the human race had at some period of their lives had this disease. That being true, and considering the small per cent. of deaths, it naturally follows that appendicitis does not always kill, even if it is not operated on. In the catarrhal form, he thinks there is no reason for operating. In the perforative form we should operate. In the perforative form without adhesions we should also operate as soon as we make a diagnosis.

Dr. William T. Briggs, of Nashville, had been operating on every case of appendicitis that came into his hands where the diagnosis was clearly established, and he has had no occasion to regret it. He has operated in cases where there were perferative symptoms, and in others where there were none; in some where there were, and in others where there were not, suppuration, and still others where there was, and where there was not, sloughing.

Dr. C. Kollock, of Cheraw, S. C., had seen a great many cases of appendicitis. He recomends saline treat-

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ment in the first attack, but if there is a recurrence he invariably operates, and has never lost a case.

Dr. W. E. B. Davis, of Birmingham, Ala., had never operated on one of these cases without advising a secondary operation for removal of the appendix, telling the patient that the disease would recur. He thought, however, there were many cases that got well without operation, but it was a difficult matter to tell in what cases we should operate.

Dr. Hunter McGuire, of Richmond, said he had many a time operated too late, but never in his life had he operated too soon. If, after free and full purgation with salts, administered by the mouth and rectum, the symptoms are not relieved, he thinks the time for operation has come, and does not hesitate to operate. He had never known the mere operation in the hands of skillful surgeons to kill or add to the danger of the patient's life. Appendicitis kills, and it is put down to inflammation of the bowels, peritonitis, or something else.

Dr. Louis McLane Tiffany, of Baltimore, said that the cases that require consultation should be divided into those that are going to live without bursting, and those that will rupture inside of three days, and then next to the question of making the diagnosis was to get the consent of the family physician. The cases that are dangerous die within seventy-two hours, before the family physician is able to make a diagnosis.

Dr. Willis F. Westmoreland, of Atlanta, favored early operative interference. He had never been called in sufficiently early by the general practitioner to operate, consequently the patients died promptly. It was necessary to educate the general practitioner to send cases to the surgeon for operation earlier.

Dr. W. B. Rogers, of Memphis, had seen cases of cartarrhal, ulcerative, and gangrenous appendicitis, but had never been able to make a diagnosis until he got inside. The symptoms of the disease were the same as those of peritonitis, localized at the site of the appendix. In the cases he had operated on, he was satisfied that no medicine would have effected a cure.

Dr. Cunningham agreed with Dr. McGuire, that an operation should be done in case medical treatment failed to afford relief.

Dr. Riggs, of Birmingham, advocates operation in the recurrent from of the disease during the interval of attacks.

Dr. James A. Goggans, of Alexander City, Ala., had operated eraly on seven cases, all recovered.

SECOND DAY, WEDNESDAY, NOVEMBER 15—MORNING SESSION.

Intra-Cranial Neurectomy, and Removal of the Gasserian Ganglion for Intractable Neuralgia, with Report of Cases.

Dr. Louis McLane Tiffany, of Baltimore, read a paper with this title. Within the past few years intra-cranial excision of portions of the fifth nerve, together with removal more or less complete of the Gasserian ganglion, has been done for the cure of intractable trigeminal neuralgia. The credit of first doing such an operation rests with Rose, of London, after whom is to be mentioned Novaro, Horsley, Andrews, and others. Dr. Tiffany then gave an account of Hartley's method, which appears in the *Annals of Surgery* for May, 1893.

It has been Dr. Tiffany's fortune to operate four times for excision of intra-cranial portions of the fifth nerve. In each case the reason for the operation was trigeminal neuralgia not due to disease of the brain. Hartley method was followed. All cases recovered from the operation and were relieved of neuralgia, it is to be hoped, permanently. The operations have been long, but recovery in each instance has been rapid and complete. In all cases the wounds healed at once, except in the fourth case, where the patient scratched the recent wound and infected it.

It is worthy of note, that in the case of the patient upon whom operation was performed fourteen months ago, there is less anæsthesia and more perverted sensation than in the other cases. Sensation seems to have returned somewhat, and it is interesting to speculate as to whether sensation will ever completely return, and if so, by what route. Preservation of the sense of taste after division of the second and third divisions is to be noted. That the power to recognize heat and cold exists in a region rendered devoid of ordinary sensation by nerve section, is of much interest, and recalls an observation made some time since, that a conjunctiva insensitive from the local application of cocaine still appreciates the difference between heat and cold.

When dividing the third division of the nerve in case four, Dr. Tiffany believes that he isolated and recognized the motor branch before dividing it. Not having provided himself with a sufficiently long and fine electrode, he could not prove the accuracy of his opinion by electric stimulation, and therefore divided everything. By leaving intact the motor branch, the patient would not have food collect in the cheek of the paralyzed side, and in future operations an effort should be made toward this end.

The Vaginal Route as Compared with the Abdominal for the Removal of Pelvic Viscera.

By Dr. George J. Engelmann, of St. Louis, Mo. He called attention to the advantages offered by the vaginal route for many of the operations, and especially some of the more dangerous now practised by means of abdominal section, for the removal of the uterus and appendages, and especially in suppurative cases with multiple pus-centres. It was vaginal hysterectomy for malignant disease of the uterus which first paved the way to the more extended use of the vaginal route for such operations. He pays a fitting tribute to American surgery, when he said that this, like other of the great operations of recent times, emanated from a Southern surgeon. In New Orleans, in 1846, Dr. Dubourg fully described this operation, which he had repeatedly prac-

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tised with success since 1829, but it was again forgotten until revived within the last decade, and vaginal hysterectomy for malignant disease of the uterus is now everywhere an accepted operation, which is rendered especially safe and rapid by the force-pressure method of Pean; and it was the French surgeon who extended the field to the removal of other contents of the pelvis by the vaginal route, resorting to the piece-meal removal, the morcellement, for the extirpation of masses too large to be delivered in their entirety through the vaginal opening. The leaders in this new departure are Pean and Sigond, of Paris, Doyen, of Reims, and Jacobs of Brussels, and followed for the present by the French school only. In Germany and England these operations are practised but little, if at all, and in this country the vaginal route is limited to the removal of the uterus, vaginal hysterectomy for malignant disease, and perhaps for prolapse or inversion. Isolated cases of removal of prolapsed ovaries resting on the vagina, or small and conveniently situated ovarian cysts through the vaginal opening, are now and then performed everywhere but this is a very different matter. The surgeons who are leading in this field vary somewhat in method, and in the extent to which they apply it, but the vaginal route now serves them, (1) for hysterectomies for the removal of malignantly diseased uteri, and moderately enlarged uteri, for hysterectomy by morcellement, for uterine tumors which do not extend above the navel. (2) For the bilateral removal of appendages with diseased uteri. (3) For the treatment of pelvic suppuration of all kinds. (4) Dr. Jacobs even prefers the vaginal method for certain cases in which the appendages of one side only are to be removed. Pean limits hysterectomy by morcellement to benign growths, and to all cases of pelvic suppuration treated to-day by a laparatomy; while Ligond still prefers laparotomy when operation is indicated in unilateral cases, above all in unilateral salpingo-ovaritis when non-suppurative. The indication given by Terrier and indorsed by Jacobs is, first the resort to the vaginal route for cases in which suppurative pelvic peritonitis has returned, if laparotomy has already been practised; secondly, suppurative pelvic peritonitis, with fixation of the uterus and multiple pus sacs, while laparotomy may be resorted to in enucleable non-suppurative salpingo-ovaritis.

The advantages of the vaginal route are the rarity, if not absence, of shock in cases in which we would have to treat it if the abdominal method were resorted to; rapidity of operation, by reason of the force-pressure method, and the total absence of ligature or suture, nearness of the parts to the finger, and in aggravated pus cases guarding of the abdominal cavity from the pelvis proper or the field of operation by the adhesions and inflammatory products which form a perfect barrier. It seems the natural route for the reaching of parts below the pelvic brim. There is, after operation, perfect drainage established by the forceps and the dressing per vaginam, so that there is no possible stagnation. Recovery appears to be more rapid and more satisfactory than by the abdominal method, the forceps being removed in forty-eight hours, the patient sitting up on the fifth or sixth day, and moving about between the tenth and fourteenth, when cicatrization is completed.

Trephining as a Cure for Traumatic Epilepsy,

by Dr. John T. Chapman, of Bessemer, Ala He operated on a boy, who, some years previously had received an injury of the head by a blow fracturing the parietals. Three weeks after the injury he began to have epileptic convulsions. At the time Dr. Chapman saw the patient the convulsions had become more frequent, and with greater force. Two buttons of bone were removed at the seat of injury; there was considerable pressure from depressed bone; the membranes were hard and indurated. The indurations were cut out and edges of dura brought together by continuous suture. The wound healed by first intention. For two months after the operation the patient continued to have convulsive seizures, but they gradually grew less until they ceased. The operation was done four and a half years since. The patient is now eighteen years old, weighs 170 pounds, and works in a foundry. He believes the doctrine that depressed fractures of the skull without symptoms require no operative interference is in a measure responsible for many of the unfortunate sequelæ of head injuries.

afternoon session.

Dr. Kollock, First Vice-President, took the chair, and President Brown delivered his annual address. He selected for his subject.

The Southern Surgical and Gyaecological Association—Its Origin, Objects, and Aims.

He said six years ago a small band of earnest, brave, and determined Southern surgeons assembled in the city of Birmingham, Ala., with Dr. Haggard, as President, amid doubts, anxieties, and misgivings for the future, to found and organize this Association, and in this effort to build up an organization that would meet the advanced requirements of the times, and that should rank in point of talent, efficiency, and high-toned character with the other great institutions of the kind in this and other countries. But notwithstanding the stupendous difficulties encountered, the vast labor expended, and the many obstacles in our path, the Association stands to-day a monument of energy, enterprise, and indomitable will-power. Dr. Brown then traced the growth of the Association and referred to its work.

Some Remarks on the Surgical Treatment of Epilepsy.

Dr. B. E. Hadra, of Galveston, Tex., read a paper with this title. He thinks that modern researches promise to divest even the so-called genuine epilepsy of its mysterious functional character, and to make it consequently more accessible to surgical interference. Among the points he would mention as having to be

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cleared up is the deficiency in the knowledge of the great number of brain-centres that must exist. As an instance he mentions the unquestionable fact that very often the stomach or the intestines give the initial symptoms, but because we do not yet know these centres, and because the signals are very abstruse, it may easily happen that another group of muscles, which only secondarily become excited, is charged with giving the signal. The next point is to find the real seat of the primary morbid changes in the brain, which is not necessarily the focus belonging to the initial signal. Topographical and electrical localization map out only the latter. He insists that the induced current used in a different way will be all we may desire for such a purpose. It must be applied over a large area of the exposed cortex until a spot is met from where a certain group of muscles not only can be made to contract, but from where a regular epileptic fit can be elicited. This spot must be the locality of the morbid substratum whether it coincides with the physiological focus of the muscles giving the signal or not; consequently this spot must be removed.

He concludes his paper with the proposition to have uniform blanks for operations on the brain, and to have the questions filled by a critical friend during the operation, in order to avoid neglect and to prevent post operative imagination from playing its obliging part in the adjustment of the historical data.

The Management of the Epicystic Fistula.

Dr. Sohn D. S. Davis, of Birmingham, Ala., read a paper on this subject. He said the epicystic surgical fistula is the title given to a suprapubic fistula into the bladder created by the surgeon for exploration, intra vesical treatment, and drainage—a fistula which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, to provide a ready, convenient, and comfortable means of emptying the bladder at will, and give the surgeon a competent opening into the viscus for intra vesical application. It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations, and imitates nature in the restoration of its own continuity as the pathological changes within the bladder subside.

Permanent after-drainage in all intra vesical operations cannot be necessary, but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved, and the urine becomes noemal and passes per urethra unobstructed. And until this end is attained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy, or malignant growths, when removal of the obstruction is impossible or contraindicated, the epicystic surgical fistula is clearly indicated and essentially necessary.

Dr. Hunter McGuire, of Richmond, reported a series of cases of "Tuberculosis of the Bladder."

Personal Experience in the Operative Treatment of Stone in the Bladder.

Dr. William T. Briggs, of Nashville, followed with with a paper on this subject. He said living in the midst of the stone region, and in a city whose celebrity as a surgical centre has been long established, it has been his fortune to have met with an unusually large number of cases of vesical calculi. He had had two hundred and eighty-four cases of stone under observation during the past forty two years. The Southern States had furnished the greater number of the cases; a few had come from Western States—Tennessee, Kentucky, and Alabama have supplied the largest number; but Georgia, Florida, Texas, Arkansas, North Carolina, Virginia, Missouri, and Illinois have contributed cases.

Two hundred and seventy-two of the number were males, twelve females. One hundred and fifty-three were children, or youths under twenty years of age; one hundred and thirty-one were adults varying in age from twenty-one to eighty.

In operations for stone he had not restricted himself to any single method. He had done all the operations, both cutting and crushing, and he considers it very fortunate that surgery has so many resources for the relief of this distressing and painful malady. The success of every method of operating largely depends on the preparatory treatment of the patient. The pre-eminent success of Dudley, Mott, and others was doubtless due to the judicious treatment employed in the preparation of subjects for the operation; and Dr. Briggs is sure that his own success has been greatly enhanced by a strict observance of the preparatory treatment.

In conclusion, Dr. Briggs said his experience in the surgical treatment of stone in the bladder would sustain the following propositions:

1. No method of operation is adapted to all cases.
2. Thorough preparatory treatment is essential to success.
3. Litholapaxy is the operation when the patient is an adult with a capacious and tolerant urethra with a bladder free from severe chronic cystitis and with a small or medium-sized stone or, if large, of soft consistence.
4. The suprapubic is the best operation for large and hard calculi.
5. The medio-bilateral should be chosen in all other conditions, because it is the easiest, safest, and best.

Hypertrophy of the Omentum in Hernia, with Specimen.

Dr. George A. Baxter, of Chattanooga, read a paper with this caption, and presented a specimen (congenital) from a negro, thirty-four years of age, which had existed until early manhood, about the size of a goose egg. It was directly increased somewhat by working in a rolling-mill thirteen years ago, but has had a constant growth since that time, until it reached one-half or two-thirds the way to the knees, and became an unendurable

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nuisance. It was, therefore, removed, closure being made at the same time.

Treatment of Gunshot Wounds

Dr. Willis F. Westmoreland, of Atlanta, read a paper with this title. The first of this class of injuries that he was called upon to treat was shortly after he had graduated, and it thoroughly convinced him of the fallacy of probing. He never uses a probe in a gunshot wound except as it may become necessary in the progress of a formal antiseptic operation. The probing rarely does any good beyond satisfying a morbid curiosity. Even if the wound is not infected by the probe itself, it allows the entrance of air. It destroys nature's occulsive blood clot, and in this way prevents prompt union.

Second Day, Wednesday, November 15,—Afternoon Session.

Wyeth's Bloodless Method in Amputation at the Hip.

By Dr. F. W. Parham, of New Orelans. He prefaced his own paper by reading some extracts from a paper by Dr. John A. Wyeth, read before the last meeting of the New York State Medical Association. He made use also of the statistics kindly furnished him by Dr. Wyeth. These statistics were as follows: Sarcoma, 17 cases, 2 deaths; 11.76 per cent. Inflammatory bone disease, 18 cases, 3 deaths; 16.6 per cent. Violence, 4 cases, 4 deaths; 100 per cent. Nerve injury, 1 case, no death. Total for disease, 36 cases, 5 deaths; 13.88 per cent. For injury, 4 cases, 4 deaths; 100 per cent. For both disease and injury, 40 cases, 9 deaths, or a total of 22.5 per cent. In this list is one case now published for the first time. Boy, aged three, sarcoma of thigh, recurrent, amputated by Wheth's method by Dr. Parham, October 5, 1893, discharged, cured, October 24, 1893. These statistics show a mortality reduction for civil practice of at least one half. Ashhurst's statistics gave 40.2 per cent. for disease, 92.4 per cent for injury, or a total of 64.1 per cent. Leming gives gunshot wounds 98 per cent. disease, 42 per cent.

Dr. Parham referred to the various methods proposed for contolling hemorrhage at the hip and spoke of the various modifications of the Wyeth method. He specially urged that the outer pin should be placed higher, so that the disarticulation might be done before the tube was removed. He favored the suggestion of Thomas, that in placing the pins, the tubes should be put around first at the proper place, and that then the pins should be put in at the lower border of the tube. He believed that the bone should be disarticulated entirely without sawing. In conclusion, the reader remarked, "I am inclined to agree with Murdock that the method of Wyeth is the best yet devised."

Dr. W. B. Rogers, of Memphis, Tenn., read a paper entitled "Laparotomy in General Surgery—Report of Twenty Cases."

Operative Procedures for Carcinomatous Tumors of the Breast.

This paper was read by Dr. J. McFadden Gaston, of Atlanta, Ga. He said a point of great moment, as to the extent of operative procedure, pertains to the leaving of any portion of the mammary gland, when only partially implicated in the carcinomatous growth. The aesthetic element should never enter into the decision of such a vital question as the arrest of carcinoma, and whenever a breast is the seat of a malignant tumor, whether wholly or partially involved, there should be no hesitation about removing the entire glandular structure. If a part of the mammary gland only seems to be involved and it is evident the knife can be carried outside of the neoplasm into the apparently sound tissues of the breast, there is every reason to believe that if any portion of the gland is left it may become the seat of disease, and that recurrence will most likely follow the operation. On the other had, an entire ablation offers better prospects of success.

The relative advantages of the knife and cauteries in the management of carcinoma depend very much upon the progress of the disease. In the incipiency of the local tronble there can be no doubt in regard to the excision being preferable to cauterization, but after full development of a tumor with a tendency to degeneration and breaking down of its structure the resort to escharotics has its advantages in extending to the remote ramifications of the disease. It is a prevalent impression that certain caustic applications attack diseased structure without affecting the sound tissues, and that the so called roots of a cancer are thus destroyed. There seems to be some just foundation for this belief in regard to applications of arsenic, but the destructive effect of caustic potash in the form of Vienna paste extends to every vital structure with which it comes in contact, and the same holds in reference to the plaster of sulphuric acid and charcoal as an escharotic.

Dr. Gaston said the treatment of carcinomatous tumors of the breast with caustics has been tested fully by Bougard, of Belgium. His paste contains chloride of zinc. arsenic, cinnabar, and corrosive sublimate. Of one hundred and sixty cases, sixty-two, or nearly forty per cent., were free from recurrences three years after treatment.

The Diagnosis of Some Abdominal Tumors Supposed to be Ovarian.

By Dr. James A. Goggans, of Alexander City, Ala. Dr. Goggans said the first requisite of the abdominal or pelvic surgeon is to acquire the ability to make a diagnosis. Text books lead one to believe that that was quite an easy thing to do, but his experience had convinced him to the countrary. He then reported a few cases which had come under his observation which served to illustrate the fact that the diagnosis of many cases is often difficult, and in some cases quite impossible.

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Does Gonorrhea in the Female Invariably Prevent Conception?

Dr. John T. Wilson, of Sherman, Tex., read a paper on the supject. He said it has long been known that gonorrhea in the female was sometimes attended with complications that proved troublesome and of serious import. Authors had for many years been describing endometritis, metritis, inflammations of the tubes, ovaries, and peritoneum produced by an ascending specific vaginitis, these structures being invaded by the poison, slowly creeping up through the cervix, involving first the mucous membranes in its tract and extending by continuity of structure to the deeper tissues. The more serious results, however, were not appreciated, nor so well understood until within recent years, when laparotomy became so common an operation, and the pathology of the more important sequelæ were studied from the specimens themselves. According to the experience of our best authorities it is so difficult to positively differentiate between gonorrheal and severe simple vaginitis without a clear and authentic history, it being attended with the same symptoms and the properties of also infecting the male, that it is not altogether an easy task to say when ovarian, tubal, and uterine troubles, even with the presence of the Neisser gonococcus, have a specific origin, especially as simple vaginitis will sometimes produce them all. Dr. Wilson had observed quite a number of women who were the victims of gonorrheal infection, many of them innocently so, having contracted it from their husbands, and believed it to be an ordinary leucorrhea; many of those whose history he was enabled to follow afterward bore children for many years, were apparently healthy and gave no evidence of the usual complications.

Dr. Wilson then reported cases illustrative of some of these conditions and results. That gonorrhea does frequently prevent conception is probably well established; but he does not think it is by any means the universal rule, clinical illustrations are too many to the contrary. If Noggerath's statements are literally true, sterile women and fruitless marriages would be far more common, and the increase in the race would be greatly lessened, for there are a surprisingly large percentage of men, judging from his experience, who, if they confessed the truth, have suffered at some time in their lives with gonorrhea.

Some Remarks on the Practical Treatmeft of Hepatic Abscess.

By Dr. James E. Thompson, of Galveston, Tex. The author confined himself to a few practical remarks on the diagnosis and treatment of hepatic abscess and reported two interesting cases. He mentioned a few points on the treatment of the cavity after the contents had been successfully removed. It is often exceedingly difficult to obtain free drainage even when large tubes are employed. In some cases even swabbing the walls of the cavity is ineffectual and these cases are practically hopeless, owing perhaps to inherent tissue weakness. The author tried curretting in one of his cases, and although he removed, as he thought, all necrotic tissue, still in a few days the cavity was as bad as before. Continuous irrigation often affords a means of efficient removal, but the tubes have an aggravating habit of becoming blocked, necessitating frequent changing and cleaning. Irrigation with a solution of sulphate of quinine—1 to 1000—was in one of his cases remarkably successful, and although the improvement may have been a coincidence and not a *post hoc ergo propter hoc*, he thinks that in cases of amebic dysentery, at least, it deserves a fair trial.

Election of Officers.

The following officers were elected for the ensuing year:

President, Dr. Cornelius Kollock, of Cheraw, S. C.

First Vice-President, Dr. A. B. Miles, of New Orleans, La.

Second Vice-President, Dr. J. B. S. Holmes, of Rome, Ga.

Secretary, Dr. W. E. B. Davis, of Birmingham, Ala.

Treasurer, Dr. H. P. Cochrane, of Franklin, Tenn.

After introducing and adopting resolutions of thanks, the association adjourned to meet in the city of Charleston, S. C., third Tuesday in November, 1894.

Trephining in Epilepsy.—C. F. Barber in Brooklyn *Med. Jour.*: The following are the conclusions arrived at by the author in a paper upon this subject:

1. I believe the results obtained when no tumor, thickening of cerebral coverings, cicatrices or cysts are found or depressed bone removed are due simply to the lessening of pressure upon the brain.

As the attacks have returned in all the cases which have come under my observation, I firmly believe the cause for the failures is that the brain rapidly loses the effect of the lessened pressure and is once again in the same condition as before the operation.

2. In many cases where the results are contrary to all reasoning, I consider the failures due to the too much manipulation by the operator, disturbing or irritating the cerebral matter.

3 Where the cause of the epilepsy is due to an injury the trephining should be done as soon as the diagnosis of epilepsy is made.

One fact which is peculiarly striking in the cases reported, is that they were all operated upon at or about the same time—when trephining for epilepsy was the fad.

Whenever an epileptic gives a history of a neurotic inheritance, I do not think trephining is to be considered of any avail, even though the exciting cause be a traumatism.

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NOTES AND ITEMS

Removal.—Dr. R. Harvey Reed has removed from Mansfield to Columbus, Ohio.

A Statue of Ricord, says *L'Union Medicale*, has been erected in front of the Hopital du Midi on a pedestal that has already been some time in place.

Misuse of the Mails.—A few days ago one Hunter, an electric-pad-device man, was sentenced to the penitentiary by the United States Court of Cincinnati for a misuse of the United States mail, on the ground that his scheme was to defraud the people by selling a useless device.

A New Surgical Institute for Paris.—Dr. Terrier, now at the Bichat Hospital, will replace Dr. Le Fort at the Pitie. Dr. Terrier, who is an enthusiastic advocate of antiseptic and aseptic surgery, has asked the medical faculty to give him a new service, organized entirely according to his ideas. His request has been granted, and the faculty will ask the Conseil Municipal to supply the funds required. There is a piece of unoccupied ground close to the hospital which will serve as the site for the new surgical institute.

Transport of Tubercle Baccilli.—The trains of women's dresses constitute a means of carriage of tubercle germs and other micro-organisms which should not be underestimated. During their use on the street and public localities, dress trains continually pick up sputa, which may dry on them, and so find their way into the living room. Dixon made examination of a small quantity of dust taken from a dress which had been but a few times on the street, and in one preparation found seven tubercle bicilli.—Dixon, *Times and Register*.

The "Weekly Medical Review" Pocket Reference Book and Visiting List, Perpetual, published by J. H. Chambers & Co., St. Louis, Mo., is one of the most complete visiting lists we have examined. It contains many important suggestions, which will be of much assistance to any physician, in cases of emergency. While it is not intended to take the place of larger books of reference, yet such a book is indispensable to the active practioner, not only for the reference and important suggestions on important subjects, but it is a convenient visiting list, which a physician can carry in his pocket and keep a full and accurate account of all the work he may do.—Alabama *Medical and Surgical Age.*

Boycotting the Charite.—For some time past the Social Democrats have had reason, or what is the same thing to them, they believe they have reason to find fault with the management and nursing staff of the Charite Hospital, and have in consequence "boycottet" it. The Social Democrats are a very powerful body with a firm organization, and the result is that about 200,000 members of the different sick societies have determined to have nothing more to do with this hospital until fresh arrangements are made in accordance with their views. The leading spirit in the new enterprise is a young medical practitioner, named Zadek, who has the reputation of being a fanatical Social Democrat, and who has at any rate done some good work as a city deputy in the debate on typhoid fever. The grounds of complaint lie in the structural and sanitary condition of the hospital, and in the management and treatment of patients. On the latter point, however, no charges are brought against the medical staff, but only against the subordinate officials and nurses. As regards the structural deficiencies of the building, the charges may not be unfounded, as the old Charite is one hundred years old, and the new over sixty. Quite recently additions have been made to the existing accommodation, the children's pavilion, the obstetrical and gynecological clinics. The surgical department and the Koch barracks are models of their kind, but it must be confessed that the ancient buildings are not representative of the latest developments of science.

The second charge is that the patients, and especially those in the syphilitic department, are treated with inhumanity and deprived of their liberty. The Charite has to take in all patients sent by the police, and amongst these the *puellæ publicæ*. Those patients who commit excesses and cause a great deal of trouble cannot in the interests of order be treated exactly as the others, and it is not denied that in numerous instances some hardships have been on the one side inflicted and on the other endured. What will be the upshot of the movement, or what hospital the exacting Social Democrats will take under their protecting care, in place of the one that has excited their wrath, one cannot at present pretend to say.—*Medical Press.*

The Increase of Insanity in England.—Much has been written lately about the great increase of insanity in England in the last few years. The daily and periodic press especially have delighted in the alarming state of affairs and while some competent observers are inclined to believe in an increase of the disease the general result of statistics furnished by the Commissioners of Lunacy are offered to this view.

Dr. Rayner, in a recent article (*Brit. Med. Journ.*), says that an analysis of these statistics shows three clear and definite facts: (*a*) that in the last two decades there has been a progressive diminution in the number of mentally afflicted under the age of twenty-five years; (*b*) that there has been an inconsiderable increase between the age of twenty-five and fourty-five; and (*c*) that practically all the excess of increase has been in persons above the age of forty-five years. The decrease of in-

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sanity in the population in the first twenty-five years of life, if satisfactorily proved, would go far to convince those who have actual experience of the insane that this must correspond to a diminution in the total production of mental diseases. The tendency to incareasing degeneration in the families of the insane, resulting in later generations in mental defect, is a well established fact. If, therefore, there has been a diminution in the early decades of life, this must correspond to, and be the re sult of, a lessening of hereditary influences.

The increase in actual number of persons confined in asylums is owing to several factors. Yearly the advantage of institutional treatment for the insane is better appreciated, and families are willing to send their afflicted members away from home. Another reason is the transfer of pauper and criminal insane to the proper asylum instead of confining them to almshouses and jails. An eminent alienist physician, of large experience in prisons,recently expressed the opinion at a public meeting that a not inconsiderable part of the decrease of criminals was due to the fact that many weak minded persons, formerly classed as criminals, were now relegated to asylums. The statistics in support of this view are, however, not easily available. Still another reason is found in the greatly increased survivorship of persons mentally affected when cared for in asylums.

The only form of mental disease in which a great development is alleged is general paralysis; but the apparent excess is probably chiefly due to increased care in diagnosis and to such cases being more largely sent to asylums. This form of disease, however, with an average asylum duration of two to three years, would not greatly add to the permanent number, except by an increase much beyond that which is claimed for it.

The asylum population (whatever the causes) has increased since 1871 by about 30,000, and if the facts relating to increased survivorship under asylum treatment have any cogency, this (survivorship) would by itself account for the small advance in the census numbers of the insane under the age of forty-five, from 2.24 per 1,000 of population in 1871 to 2.26 per 10,000 in 1891 without resorting to any theory of actual increase.

The ultimate conclusion is that the evidence at present available admits of the interpretation that there is no real excess in the amount of occurring insanity, but is even compatable with the possibility of an absolute diminution, which has certainly occurred in the earlier decades of life, and is probable in the well-to-do classes.

Professor Nicholas Senn's Great Gift to the Medical Profession.—We learn from the *Journ. of the Amer. Med Asso'n* that Professor Nicholas Senn has given his great collection of medical books to the Newberry Libraray.

Prof. Senn, says the *Journal*, has for many years been engaged in the gathering of this magnificent collection, but for the most part the gems of the library were obtained by purchase from the estate of Professor William Baum, Professor of Surgery, University of Gottingen. He was one of the founders of the German Congress of Surgeons, and for fifty years has been collecting works on anatomy, physiology, surgery and the old classical authorities. Professor Baum died in 1886, and his estate offered the library for sale. The wish of Professor Baum was that the German Congress of Surgeons should purchase the library, but that organization did not see their way clear to meet the expenses. The administrator of his estate publicly stated that Professor Baum had spent over forty thousand dollars in its purchase. The administrator offered the library to various parties, and the Royal Library of Berlin offered an almost fabulous price for a number of antiquarian volumes contained in the collection, but the administrator, following the wishes of Professor Baum, refused to separate the books, and announced that it would be sold by auction. This coming to the ears of Professor Senn, he at once secured it by making a partial payment, and then withdrew it from sale. The books were shipped to Professor Senn, then in Milwaukee, in fifty-two cases, constituting an entire car load.

Beside the works on surgery, gynecology and ophthalmology in the Baum library, the collection contains a full set of Virchow's Archives, several single volumes of which are valued at $50 each. Langenbeck's Archives, Jahresbericht der Gesund-Medicine, Cannstatt's Jahresbericht, Prager Vierteljahreschrift, and the Deutche Chirurgie. (The continuation of these periodicals from time to time by the terms of the gift, the Newberry Library must hereafter procure as published). To the foregoing, Professor Senn has added nearly all the modern works on surgery, which includes gynecology, and allied branches. He will retain his working library of modern works, and a few old favorites to which he is naturally attached. The first thought of this action was suggested by Mrs. Senn, who appreciating the value of the library, pointed out the insecurity of a private house from fire and other casualties, and Professor Senn concluded that he would place the collection at the disposal of the profession. There are thousands and thousands of pamphlets,ancient and modern,and atlases almost numberless. All of these go with the collection, the money value of which is about fifty thousand dollars.

When Professor Senn came to make the formal tender of the transfer of his books, he had a pang of regret, but Dr. Poole the libarian, consolingly said that the Newberry was only five minutes walk from his house and he would keep them for him. No bibliophile can part with his books without regret, and yet in this action Professor Senn has built himself a monument more enduring than bronze or marble, for generations of medical men, long after those now on the stage shall have passed away, will draw inspiration and wisdom from the "Senn Collection," in the Newberry Library, and as often with gratitude reflect on the noble generosity of its distinguished founder.

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Tetanus.

℞ Chloral hydrat., - - - - - - - - ℥ij.
Neurosine,
Mucilag. gi. arab., - - - - - - aa fl℥j.
M.
Sig. Dessertspoonful as required.

Scarlet Fever.

℞ Salo-Sedatus, - - - - - - - - grs.x.
Sacch. alb., - - - - - - - - - ℥j.
M. F. pulv. Divide in dos. No. 12.
Sig. One powder every two to five hours.

Laryngitis.

℞ Sennine, - - - - - - - - - - ℥j.
Aq. destillat., - - - - - - - - ℥iv.
M.
Sig. Use with atomizer several times daily.

℞ Vin Mariani, - - - - - - - - - ℥vj.
Sig. Wineglassful every three hours.

Melancholy.

℞ Elixir Nutrans (A. W. & Co.), - - - - ℥vj.
Sig. Dessertspoonful four times a day.

Myalgia.

℞ Tinct. belladonnæ,
Tinct. aconiti rad.. - - - - - - aa fl℥ij.
Tinct. opii, - - - - - - - - - fl℥ss.
Chloroform, - - - - - - - - fl℥j.
Spir. camphorat., - - - - - - - fl℥iij.
M.
Sig. Use externally.

Seborrhea.

℞ Acid tannic,
Sennine, - - - - - - - - - aa ℥j.
Alcohol, - - - - - - - - - - fl℥j.
Aq. rosæ, - - - - - - - - - fl℥ij.
M.
Sig. Use as a lotion.

Oxaluria.

℞ Sodii bicarb.,
Lithii carbon.,
Sodii phosphas., - - - - - - aa ℥iij.
M. F. pulv. Divide in dos. No. 10.
Sig. One powder after each meal.

Inflamed Tendons.

℞ Tinct. iodi, - - - - - - - - - ℥vj.
Tinct. aconiti, - - - - - - - - ℥ij.
Glycerin, - - - - - - - - - ℥j.
M.
Sig. Apply externally.

℞ Elixir Salicylic Acid Comp. (Warner's), - fl℥iv.
Sig. Teaspoonful three times a day.

Gives Entire Satisfaction.—Prof. F. L. Sim, Dean Memphis Hospital College of Medicine, Memphis, writes as follows to the Dios Chemical Co., St. Louis: "I have found entire satisfaction from the use of your Neurosine in my practice."

At Home Daily.—The ten Medical Colleges of St. Louis, together with St. Louis' forty-one public and private Hospitals and Dispensaries, all use Cod Liver Glycerine. Cod-Liver Glycerine certainly has a good standing at home.

In Functional Palpitation of the Heart dependent upon debility, the Elixir Six Hypophosphites (W.-G.'s), is prescribed with the best results. We know of no combination better calculated to restore the appetite and invigorate the system.

Testad It Fully in Metrorrhagia, Etc.—J. A. Leman, M.D., of Ridgway, Texas, writes as follows to the Dios Chemical Co., St. Louis: "I am well pleased with Dioviburnia. I have tested it fully in amenorrhea, dysmenorrhea, menorhagia and metrorrhagia, and find it to give better satisfaction than any medicine I have ever used.

The Columbia Calendar for 1894 published by the Pope Manufacturing Co., of Boston, has just reached us. It is a handsome daily desk calendar which we look forward to receiving every year. The present issue is a great improvement on former ones in appearance, the pad being of the same size and shape.

Nasal Catarrh.—The first procedure in the treatment of chronic nasal catarrh is the removal of accumulated secretions and the thorough cleansing of the parts. The means employed to attain this requisite should be mild, non-irritating, and comparatively painless in application; such as a twenty-five per cent solution of Listerine—not cold—which often suffices, but is more effective in removing hard, dry crusts, when rendered alkaline by the addition of a small quantity of bicarbonate of soda—one to two drachms to the pint of the solution.

UTICA, N. Y., Dec. 27, 1893.

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GENTLENEN—Sometime ago your agent left a sample of Sennine (New American Antiseptic), at my office, which I used on several occasions in skin diseases. In inflammation of a toe, caused by an ingrowing nail, I tried it with wonderful effect, and I can say that Sennine is all that can be claimed it. I think it is one of the best antiseptic applications.

JNO. B. NOLD, M.D.,
Follow N. Y. State Medical Association;
Late Surgeon N. Y. State Cav. Vos.

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In no other preparation are the requisites of such food for such patients so well combined as in Rudisch's Beep Peptone. One part represents the entire nutritive value of eight parts of beef converted into soluble form, free from any admixture or preservative ready for immediate absorption by the weakest system,

We have records of dozens of patients whose stomach could tolerate no other food and who subsisted for three to six years almost entirely on Rudisch's Beef Peptone.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

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ORIGINAL ARTICLES

Report of a Case, With Treatment.

BY D. H. BRINKERHOFF, M.D., FREMONT, OHIO.

I was requested by telegram, August 9, 1892, to visit Miss M. B., a maiden lady, aged 49 years, whom they (her parents,) feared was becoming insane. I visited the patient as requested. The patient, as before stated, was 49 years of age and of full well developed physique. She appeared very nervous and of an irritable disposition, inclined to find fault with all of her surroundings. I attempted to learn from her her particular ailments and from what she suffered most. About all that I could learn from her of her history was that she suffered with headache and was very nervous. As to question with reference to her particular location of pain if in the back or about the abdomen I could absolutely not learn anything, as she refused to answer any and all questions in regard to her menstrual periods, whether regular or suspended. No knowledge could be gained of her renal functions In short, I could learn nothing of any definite character from her. I then interviewed the mother and could learn but little more. From the mother I learned that the patient was exceedingly nervous, wakeful nights, and at times her mind seemed quite unbalanced. As to her physical condition I could learn little or nothing. From the general conversation I was led to the impression that she was suffering from chronic endometretis. I was led to this conclusion from her general statements and from her extreme reticence on all subjects that referred to uterine diseases. This visit was very unsatisfactory to me, as I could learn but little or nothing from the patient or the mother of the early or the more recent history of the patient. I prescribed for her some general tonics combined with strychnia. I saw her again the third day and found her condition much the same as on my former visit; she, however, thought herself much improved. I found her on this visit much more inclined to answer questions on general subjects but as reticent as to uterine diseases or mental emotions as on my former visit. I found, however, that I had gained her confidence to some extent, as she stated that her father and mother were watching her closely and she "supposed that they had told her former attending physician all about her." She informed me that she had been sick for a long time, and had been constantly under the care of a physician, for a number of years, but she could not see any beneficial results. She also informed me on this visit that for years she had suffered from much pain in her back, and also low down across her bowels, but all questions with regard to her menopause she refused to answer. From her mother I however learned that she thought that she menstruated a good deal more than she ought to, and that about such a time every four weeks she seemed much more nervous, as well as having a more marked mental disturbance. I then said to her that her reticence was very unwise and very unfortunate for her, as I could judge much more accurately of her condition and treat her much more satisfactorily to myself and much more to her benefit and cure, if she were more communicative. I then described to her what I supposed to be her condition and detailed her symptoms at length, requesting her to ask me any questions with reference to herself that she should choose. I described to her the general symptoms of chronic endometretis, and especially its influence over the nervous system in sometimes inducing aberration of the mind. I noticed that she was intensely interested in the description that I gave of the supposed cause of her condition, followed by a nervous shedding of tears. After a few minutes of silence she commenced her inquiries by asking me who had told me about her. She said that some one must have told me, as she could not describe her condition half as accurately as I had done. I informed her that no one had told me anything about her. I had sought information from her and her mother, and that she had persistently refused to answer my questions, and it was from that source alone that I could be informed as to her disease; and that information was necessary in the treatment of her case. She again interrupted me with the same statement, that I had described her feelings so accurately that some one must have told me. I replied to her that this had been a life study to me and that the books gave language to describe her condition much more accurately than she could. After some further conversation I said to her that at my next visit I should insist on the privilege of making an examination, as that was the only means of

arriving at a correct understanding of the exact character of the case. She replied that she would not submit; that she would die first. I said to her I should insist on the examination and should come prepared to make it, and that if I was not permitted to do so I should discontinue attendance and she would have to look for another doctor. I directed a continuance of the same treatment that I had before prescribed. In going to the depot on my way home I derived from her brother another item which helped to settle the matter in my own mind, confirming the conclusions which I had formerly reached. The statement was that his sister at times looked more like a frog than anything else. I asked him to explain himself more perfectly. He replied that at times her bowels were so much enlarged that she looked more like a frog than anything else.

I saw my patient again in a couple of days and went prepared to make a specular examination of the vagina and womb. At this time she made no further objection to the examination, but on the other hand gave me a much more full account of her condition as it then existed and had been for years previously. Her statement at this time was about as follows:

She had suffered much with pain in the back and across her in front in the lower part of her abdomen; the pain in the abdomen being almost unbearable; that she had suffered much with headache and a confused condition of the mind, it being at times almost impossible for her to control her mental impulses; that when her mind was the most disturbed her nervous condition was at its worst. In reply to a question if she was regular with her menstrual periods she hesitatingly informed me "that she was so all of the time; that her courses never stopped; that she flowed all of the time." In answer to a question how long this condition had existed she said she could not tell, but for years. I inquired if any peculiar circumstance had occurred or accident had happened to her about the time that the flow became continuous, or if at or about the time of her menstruation she had contracted cold, or had suffered with severe pain. She replied, "No more than usual." I then inquired if in childhood or farther on in life any accident had happened to her or whether any disease of the vaginal organ or the womb had occurred to her. She replied, "None." Her mother stated that the only thing that she remembered was about two years previous she had fallen from the back of a spring wagon as the team started quickly, falling on her back and shoulders, but she had not seemed to suffer from the fall. I said to her that as the accident had occurred so recently it could have had no influence in producing the continuous flow. I then inquired if at any former period she had suffered from leucorrhea. She replied that she did not remember distinctly, but thought that she had. I then inquired if at any time any accident, disease, or injury had happened to her vagina or womb She replied, "No." I then said to her and her mother that the statement that she had just made had changed entirely my opinion of her condition and disease; that in my judgment she was suffering from what was now called "atresia," formerly known by the name of "occlusion," and showed more than ever the necessity of a vaginal examination, as the atresia might be in the vagina or in the womb. As before stated she was a woman of good physical development; her mammæ appeared to be well developed, and in every respect so far as I could observe her physical development was perfect. Her temperature was normal; her pulse was 85, and her nervous system quite excitable.

My impressions from the history of the case was that the atresia existed in the womb. I then proceeded to make first a digital examination of the vagina, as an exploratory matter, when much to my surprise I found an almost complete closure of the vagina so much so that no introduction of the finger in the vagina was possible. The labia majora and the labia minora were much swollen and distended. I then took the common uterine sound and with much difficulty introduced through the vagina up to the womb. I do not deem it necessary to enter into a definition of the term "atresia," as you are all familiar with the term and with the history of such cases, and many of you no doubt have had the care of such cases I will, however, quote briefly from "Thomas on the Diseases of Women," page 161. He defines the term atresia as derived from a primitive word signifying, "I perforate," signifying an imperforate condition of an aperture or canal, but custom sanctions its application to any obliteration or occlusion which is so extreme as to remove the cases from the class of strictures. Hyppocrates refers to this condition as the result of labor, Aristotle speaks of the accidental and congenital varieties, Celcius devotes a chapter to it, and it claims attention as we come down to subsequent times. Heister and Boyer advanced our knowledge of it, but it was left for the daring investigation of Amussat and Debron to place its cure amongst the achievements of modern surgery."

I have been particular in giving the history of the case as it first came under my observation and care. I know that you will sympathize with me in my first effort to gain any knowledge of the history of the case, the persistent and obstinate refusal of the patient to answer any and all questions when made with reference to her genital organs until I had described her general symptoms and from these she supposed that I fully understood the case, and then and then only did she become communicative, and then for the first time I understood her true condition. The question now arose as to what should be her treatment. The continuous flow had prevented the accumulation of blood in the womb or vaginal canal, but owing to the continual discharge it showed that the menstrual discharge was continually collecting in the womb and vagina during the more active stage of her menstrual flow and gradually escaping away until her next menstrual period should occur. It was this condition I

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suppose that induced all of the symptoms of chronic endometretis, the reflex action upon the nervous system and the disturbed condition mentally. I could not give her the personal attendance that I should have desired as she was far from my residence.

As the parts were swollen, sensitive and tender, very sensitive to the touch, I directed the vaginal parts to be bathed with an ointment of cocaine, butter and opium triturated with vaseline, and cloths applied dipped in as warm water as could be borne. I also directed the use of suppositories of opium per rectum every 4 to 6 hours.

I saw her again in two days and found the vagina much less swollen as well as much less sensitive and tender.

As before stated the gradual seeping away of the menstrual flow had prevented the accumulation of coagulated blood in the vagina or the womb but the continuous pressure had produced irritation and a septicemic condition of the womb, and intense irritation to the vaginal passage.

I again introduced the uterine sound with much less difficulty and with comparatively little pain to the patient. I also introduced a large sized bougie which from its distension of the atresiated parts caused her quite severe suffering. I had some small in size and of greater length than usual for suppositories, prepared, and directed them to be introduced into the vagina every 4 to 6 hours.

I felt that I had now reached a point where more vigorous and decisive results could be obtained. The question now arose in my mind between dissecting up the parts or the dilatation of the same from pressure. I felt that the former method would be the most speedily accomplished and with less pain to my patient, but on the other hand I could not give her the personal attention that she would require and in case of any accident or misfortune a calloused condition would be liable to follow which would be equally unfortunate, if not worse than the present condition. I therefore determined upon dilating the parts by pressure on the same as rapidly as could be borne.

I again visited the patient in a couple of days taking with me a large sized bougie and a small or rather common sized dressing forceps such as is commonly used by Gynecologists. The forceps is 12 inches long and the blade 5 inches long. I had become stisfied that the atresia was confined more largely to the lower half of the vagina. I took a long, pointed penis syringe and injected some cocaine into the vagina after having passed the bogie. After waiting a few minutes for the effect of the cocaine I introduced the dressing forceps the length of the blades and commenced dilatation by separating the blades of the forceps. I was much gratified with the result, as I had gained much more than I had expected at this time.

I directed the local applications to be continued and introduced a sponge tent which I directed to be left for 6 hours and then to be removed and another to be inserted the day following, and left for the same length of time, and then removed.

On my next visit in two days I found the patient much more comfortable. I again dilated and felt that I had gained enough to permit of vaginal injections of warm water with an antiseptic using a small pointed female syringe. I directed the same treatment to be continued. I saw the patient again the second day and was much pleased with the result. At this visit I again dilated, washed out the vagina with the warm water and antiseptic. The wash as it returned from the vagina showed comparatively but little color and was largely devoid of the offensive odor of the former discharges. At this time I introduced into the vagina one of Semes' vaginal dilators, (the smallest size,) directing her to allow it to remain as long as she could without suffering too great pain, and to introduce it again in the course of 6 or 8 hours. I visited the patient again on the second day for the reason, that I feared she might not introduce the dilator from inability so to do or from want of disposition. She stated that she had not been able to introduce the dilator. I dilated as before, washed out the vagina with the antiseptic fluid, and introduced the Semes' dilator, instructing how to introduce it, giving her the same directions as before. Before leaving I removed the dilator so that she should make the attempt to introduce it in my presence that I might assist and instruct her if necessary. She succeeded in introducing it with considerable inconvenience and suffering, but seemed more pleased with her success. I visited her again in 3 days, when she informed me that the dilator had been worn on an average from 6 to 8 hours before it was removed, and at the time of my visit it had been worn about ten hours. She also stated that the vaginal injection had afforded her so much relief that she had used them morning and evening. At this visit I introduced a larger sized dilator, giving the same directions as before. I visited the patient again in 3 days and found that she had little or no difficulty in introducing the dilator and was much improved mentally and physically. At this time she informed me that the flow had entirely ceased. I directed the wearing of the dilator, the washing out of the vagina, and such outdoor exercise as she could take without becoming tired or wearied.

I visited her again in one weeks time and found that my directions had been fully carried out, also that during the past week she had her menstrual flow and that she had suffered but little from it, and that the flow had entirely ceased. I gave her the same directions as before. I visited her for some four weeks, once every week, and found her condition improving satisfactory. I directed the same course to be continued as before, explaining to her the necessity of continuing to wear the dilator, as the discontinuing would probably cause a contraction of the parts, and that she would be benefitted by the continuous use of the vaginal injections with such open air exercise as she could

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take without becoming wearied or tired. Her menses continued about 6 months and then ceased without any unpleasant condition, as the result of the change of life. The dilator she continued to use for some months after the ceasing of her menstrual period and until I informed her that it was unnecessary to continue the wearing of it unless she contemplated married life. To day she is vigorous and well, free from mental troubles or nervous affections.

As you doubtless noticed, I have not given a description of atresia because I thought you would read it more satisfactorily from the authorities than from my description.

Second: As Thomas says, in his work on the diseases of women, "it is a condition which has no symptoms to describe it."

I have preferred to give you the history of the case as it occurred to me, my doubts and perplexities owing to my inability to obtain information which was withheld from me, rather than to attempt an accurate description of atresia, its cause, etc., as you would find them much more perfectly described by the authors than by me.

Auto-Infection in Puerperal Sepsis.

BY C. LESTER HALL, M D.,

Professor of Medico-Surgical Diseases University Medical College, Consulting Surgeon Missouri Pacific Hospital, Gynecologist to the Scarritt Training School and Hospital, Gynecologist All Saints Hospital, Kansas City, Mo.

"Looking backward" over an experience of more than a quarter of a century and recalling the experience of my preceptor, who fortunately was my father, a man of large experience marked by a success above that of the average physician, I am brought to the conclusion that cases of so-called puerperal fever can not always be charged to the introduction of septic material from without, but that the old time idiopathic puerperal fever has a place in the etiology of disease. It is not my desire nor my intention to commit myself to a position of opposition to the modern use of asepsis and antiseptics in obstetrical practice, for in my work I carry them out in minutest detail, but rather, to elicit discussion upon some of the mooted questions connected with this important subject, with a hope that a clearer understanding may result, of the etiological factors entering into the production of septic conditions following child birth. I recognize the fact that it would be considered rank and unpardonable heresy, in this day of enlightenment and rapid advance in medical and surgical practice, for one to doubt for a moment, the efficacy of antiseptics in obstetrical practice, and yet, an unprejudiced retrospection, if we are to trust published results and statistical reports, causes us to stop and consider, wherein lies the secret which takes away so many women in the puerperal bed. Any man of liberal experience, can recall one or more cases of fatal termination, that his closest scrutiny could not detect the point of entrance of the infecting germ, without perineal or cervical tear, a complete expulsion of the placenta, a perfect involution, inoffensive lochia, no tympanites and little or no tenderness, faultless environment, and yet, his patient died.

Let us consider both sides of the question at issue, and acknowledge first the correctness of the reports and gratifying results that come to us from the New England Lying-in Hospital and Preston Retreat and others where *unmistakably*, asepsis and antisepsis is carried out to perfection, and the death rate has been reduced to the minimum, and then place on the other side of the balance, the sheet reports that come to us from Great Britain and the Continent of Europe. Place below this the marvelous report of six thousand cases of labor and hundreds of cases of abortion presented at the meeting of the American Medical Association, at Washington, in 1891, by that graphic author, Hiram Corson, of Pennsylvania, when before the days of antiseptics, and without special aseptic precautions, he went from cases of a contagious and infectious nature—even from one case of erysipelas of the genital organs, which proved fatal—to other women, in labor, without ever having carried infection. Take his cases of abortion, when the vagina was often filled with decomposing and offensive clots and tampons, waiting for the uterus to dilate and throw off the product of conception, (he did not dilate and curette) without a case of peritonitis resulting. Other reports might be furnished, but these will suffice. Now, strike the balance, and see which is the debit and which the credit side? Consider in this connection, the retention of the dead fetus in the uterine cavity, with disintegration of the fetus, amniotic fluid and placenta. Though slow, yet these changes *do* certainly take place in some degree, chemical if not putrefactive, and observe the infrequence of infection.

Further, when so clean an operator as Price says, in condemning the currette, "Fragments of placents and membrane are frequently retained and are cast off in a day or two, drainage effectually doing the work," risking infection by absorption, are we not, in the face of those mystifying and conflicting reports, driven to the conclusion of a possible infection from within?

No one at all familiar with Poirier's study of the lymphatics of the pelvic organs and their connections with inflammations of the uterus and its appendages and pelvic peritonitis, can, for one moment, doubt the possibility of septic absorption from the cervix or uterine cavity. But his mercurial injections demonstrated also, a retrograde circulation, which he thinks "probably occurs in life in vessels distended by congestion." In this last conclusion, coupled with the well known safeguard of nature, viz., uterine involvement, which shuts up these glands, and must measurably cut off lymphatic circulation, we are again brought to the conclusion of the importance of looking further, in many cases, for the cause of puerperal sepsis, than the genital track.

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It must be remembered that the lochia of the healthy woman contains no pathogenic germs. Manton says: "The healthy peritoneum offers a strong resistance to the invasion of organisms from without."

To a candid and fair discussion of this subject, in view of the testimony before us, we must ask a few pertinent questions, viz :

How much have we really accomplished by the use of antiseptics in obstetrical practice?

Have we really prevented puerperal infection by a resort to this modern use of antiseptics?

What new factor has arisen in these latter years, calling for such precautionery measures?

Are there not other and more important factors in the production of puerperal sepsis than the invading army of micro organisms from without? Have micro-organisms increased in such proportions as to be lurking on every breeze? Or have they come forth as an army, with new missiles of war? The Winchester, instead of the flintlock of our forefathers?

Have we not been overlooking some sources of danger, and been fighting the enemy at the outposts, when in fact, the deadly foe was within the organism?

The answer to these questions, it seems to me, is this: Conditions are very much the same as in the past, so far as outward causes producing puerperal diseases are concerned, but with the lapse of time, there may have come a vulnerable and weakened condition of our women. The female organism may have grown less refractory and less immune to disease, and with this possible loss of immunity, which has overtaken our women, either as a result of a higher civilization or some hereditary constitutional taint, there has grown upon the American women a repugnance to child bearing, which constantly exerts a baneful influence upon the maternal state.

But a fruitful source, and more potential cause of auto-infection, may be found in the dissemination of gonorrheal infection, in its active and modified forms, and other inflammatory changes within the female gen erative organs and connective tissues which often lie dormant, possibly encysted, for years, without giving rise to special disturbance, until during the throes of labor, these foci are ruptured and light up inflammations with either local or general infection which jeopardizes the lives of our patients, if it does not lead to a fatal termination. Those conditions and possible results cannot have escaped the observant, painstaking and thinking obstetrician and gynecologist, who in his abdominal and pelvic work often detects septic nests, which, if ruptured in the cavities, would endanger life. These foci may exist in the uterine appendages, dermoid cyst, etc., and may be unilateral, which will not prevent conception, but act as a menace to the patient's life and twart our best efforts.

The remedy? This does not and cannot consist in so-called constitutional antiseptics, in vaginal and intra uterine irrigation in curetting the endometrium, in hot formentations, counter-irritation or cantharidal vesication. Armed with these we are too often powerless. What then? Surgical intervention offers a meager, but unsatisfactory hope, but perhaps the best that can be done. However, only in carefully selected cases is it to be thought of, and even then, laparotomy must necessarily be tentative.

In conclusion, I must offer a suggestion for preventive measures, since treatment of *established* puerperal sepsis has so often lead to indifferent results.

Entertaining as I do, decidedly conservative views on the subject of oophorectomy, and deprecating the reckless manner in which sound ovaries have been too often sacrificed, and having a well founded skepticism as to the ability of any man to diagnose exact pathological conditions within the abdominal cavity; I desire to enter a plea for the comparatively safe exploratory incision in non-pregnant child bearing women, in cases of strongly suspected pyosalpinx, abscessed ovary or other infectious cysts, with a conscientious bravery on the part of the operator, that will enable him to refuse to remove healthy organs, without the fear of losing surgical laurels, or the opportunity of adding another pair of ovaries to his already overcrowded list.

Case of Rectal Stricture with Pyonephrosis of the Left Kidney.

BY CHARLES R. OATMAN, M. D

Professor of Rectal Diseases, Barnes Medical College, St. Louis, Mo.

A. J., forty years of age; a coal-miner by occupation. Gave a history of having suffered with a habitual slowness in the action of the bowels; with difficulty in getting rid of the contents of his rectum except in diarrhea or under the effect of laxative medicine.

He complained of a painful sensation, in the lower part of his abdomen, accompanied by frequent bloody and mucus stools. Fecal passages scanty, and attended with griping pain, not confined to the lower bowels, but occasionally over the region of the stomach. Left lumbar region extremely tender on deep pressure.

There was a general bloated or distended appearance of the abdominal cavity. Colicky pains with a tendency to eructation which Copeland, considers, but without sufficient reason, to be almost pathognomonic of that most dreaded of all diseases, stricture of the rectum. By palpation over the colon from coecum to sigmoid flexure, I found it extremely distended with fecal matter, Rectum entirely empty.

The patient located his pain over the sigmoid flexure, and left kidney; with a gurgling noise as if air was passing at that point.

My judgment led me to believe that there was morbid infiltration in connection with left lumbar and iliac regions. The symptoms of stricture almost invariably present themselves, at first, in a hardly distinguishable form, for the obstrution to the function of the rectum to which they are due comes on very gradually and even iresidiously.

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By physical examination externally, I determined that this was evidently an organic obstruction at the sigmoid flexure. At the determined point of tumefaciion, the latter seemed to be rather firm, but yet elastic, and free of nodules. My first impression was; either a stricture with impartion of the sigmoid flexnre with ulceration, or, scirrus of the rectum in a state of ulceration. By introducing a speculum, I found the rectum clear to the sigmoid flexure of all cancerons deposits, which established the diagnosis of stricture with ulcerations of the sigmoid flexure. I will state also that these was no trace of cancerous cochexia.

I began treatment by introducing a number three whalebone bougie, gradually dilating until I could pass with ease a number five,and by means of a large irrigator, I flushed the colon with hot water and thus removed the contents. After the copious passage I introduced through a whalebone bougie one pint of hot water with one ounze of listerine,to be retained as long as possible for the pur pose of rendering the ulcerations antiseptic, alternating every twenty four hours with a combination of sennine and olive oil, four drams to the pint. This treatment I continued fourteen days, blood mncous and pus discharge entirely ceased. Passages normal, tenderness on palpation over abdominal cavity absent; with exception of left lumbar region near the spine, which seemed to be the point of interest at this stage of the game. After relieving all apparent trouble in connection with the rectum I discovered a fullness with extreme pain over the left kidney and selecting a small exploring trocar I entered the kidney at the left, and posterior lumber region. On with-drawing the instrument I detected pus. My diagnosis was: Pyonephrosis. The question eminatiug in my mind was the method to be employed for relief of the second malady I concluded to aspirate, selecting Black's aspirator. I entered the kidney and evacuated an abscess containing two ounzes of pus. I then washed out the cavity with fluid hydrastis, one ounze to the pint of hot water. The pain subsided, tenderness disappeared, patient fully recovered. I then gave directions to continue the dilation until further orders. He is now using a No 12 bougie.

The "Weekly Medical Review" Pocket Reference Book and Visiting List, Perpetual, published by J. H. Chambers & Co., St. Louis, Mo., is one of the most complete visiting lists we have examined. It contains many important suggestions, which will be of much assistance to any physician, in cases of emergency. While it is not intended to take the place of larger books of reference, yet such a book is indispensable to the active practioner, not only for the reference and important suggestions on important subjects, but it is a convenient visiting list, which a physician can carry in his pocket and keep a full and accurate account of all the work he may do.—Alabama *Medical and Surgical Age.*

EDITORIALS

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Secondary Diphtheritic Paralysis of the Heart.

The paralysis of the heart which occurs in the period of reconvalescence of diphtheria has lately been the subject of discussion of many investigators and it appears that the tissue changes leading to the production of paralysis is due to the action of toxines; it attacks mostly children over six years of age and usually occurs after an attack with intense local manifestations, rarely after a mild local affection of the throat; it occurs more frequently in weak than in robust children and attacks particularly children belonging to a tuberculous or neurotic family. The intervening period between the apparent recovery from the disease and the first symptoms of paralysis lasts, according to Francesco Veronese, who has gathered a great deal of material upon the subject, from two to eight days and in rare cases from four to six weeks, but in the latter instant it is complicated with other dangerous symptoms of general paralysis. During this so called latent period various symptoms make their appearance. Apathy, irritability, change of moods, sleepiness at daytime and sleeplessness at night, horrid dreams, progressive dilatation of the heart, weak systolic heart sound, at times a lengthened and double sound; sometimes the duration of the diastolic sound is

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increased, blowing murmurs are rare. The pulse is weak, arhythmic, frequent, and of a variously intermitting character. The respiration is increased in frequency, there may be stasis in the lower lobes of the lungs, vomiting, epigastric pain, enlargement of liver, increased albuminuria, peripheral paralysis. Fever is constantly absent unless it be due to some other cause than the heart affection. Syncope during this period is a sign of a very intense disease process. In rare cases death occurs with the first syncope and the greatest danger exists during a period of two or three days after this first attack. After this, in cases that recover, a general stasis, in consequence of a weak heart's action, often takes place and edema exists for about fourteen days. After this recovery may be perfect, but in the majority of cases does not take place until after three, six or more months. The affection may present a variable clinical picture according to the preponderance of one or another group of symptoms. The prognosis is very uncertain and varies with the intensity of the symptoms above enumerated. Death occurs not so much in consequence of degenerative changes in the muscular tissue of the heart as in consequence of the degeneration of the heart ganglia and the nerves supplying the heart. The pathological changes in the tissues are: Parenchymatous degeneration of the muscular fibers with increase of the interstitial connective tissue, degeneration of the pneumogastric nerve and its cardiac branches and the heart ganglia; degeneration of the sympathetic nerve and particularly of the celiac plexus. The treatment consists above all in absolute rest, nourishing non-irritating food, strychnia, cold compresses applied to the region of the heart and, possibly, the very cautious application of electricity.

Surgical Shock.

Chas. P. Noble, M.D., in an article published in the New York *Medical Journal*, considers the nature of surgical shock, and then takes up its treatment in detail. Shock is a condition of the body which is characterized by feebleness and rapidity of action of the heart, by the shallowness and frequency of respiration, by the lowering of the temperature of the body, and by the lessened activity of most of its functions. Intellection, digestion, and the secretion of urine, all are more or less in abeyance. It is probable, also, that the processes of assimilation and metabolism are profoundly interfered with. Perspiration is usually free, the body being covered with a cold, clammy sweat. This, however, is due not not to the increased activity of the sweat glands, but rather to an arrest of the activity of their cells, so that they simply act as strainers, for the watery part of the blood to pass through them.

There can be no question that vitality is at a low ebb when shock exists, but there is some difference of opinion as to the real physiology or pathology involved. It is generally accepted that shock is a manifestation of paresis of the nervous system, its symptoms being due to lessened and irregular innervations. The question as to whether the cerebro-spinal or the sympathetic system is most involved is in dispute, and we do not propose at this time to attempt the elucidation of the question. As a matter of fact, injury of the body in any of its parts can bring about shock. Injuries to certain parts of the body are especially apt to produce shock. These parts are the testicle and urethra in the male, the ovary (in a lessened degree) in the female, and the abdominal viscera. Examples of shock from injury to these structures are common and familiar to every one of experience. The familiar experiment of temporarily arresting the heart's action of the frog by a blow upon its abdomen is a striking illustration. Leaving aside the disputed points at issue, we wish to consider certain facts because of their very practical bearing upon the therapeutics of surgical shock. Among the most important symptoms of shock is the lessened force and greater frequency of the heart's beat. The activity of the respiratory center also is much lessened. The superficial blood-vessels are contracted, so that the surface of the body is pale and even blanched. The temperature of the body is lowered below the normal. These facts are indisputable, and a recognition of the existence of these conditions forms the basis for rational therapeutics. Heat must be restored to the body; the heart and respiratory centers must be stimulated to do their work; and the superficial blood-vessels must be dilated, so that the circulation may be equalized, by affording a channel for the blood which has been retained in the great veins of the abdomen. The practice which I have followed for some years to accomplish these results will now be given.

Treatment of Shock.—The most important point in the treatment of shock is its prevention Much can be done by prudent management either to avoid shock or to lessen its degree. In selecting the date for operation a time should be chosen when the patient is in good condition. Almost always this is possible. It is only in emergency cases, and when patients are suffering from a disease whose progress is steadily and rapidly downward, that preparatory treatment will not put them in better condition. All patients requiring operation should receive careful study, and every therapeutic indication should be met before operation. Especially should the condition of the emunctories be looked after. The bowels, skin, and kidneys should be put in good condition by the use of baths, purgatives (especially broken doses of calomel and salines), and the abundant ingestion of water. The *morale* of the patient should not be neglected, as much can be done, by stimulating the courage of the timid and allaying the fears of the despondent, to make the patient look forward to her operation with courage and without dread. All these matters should be attended to prior to the day of operation. The temperature of the room in which the operation is done should be high—from 75° to 85° F. In such a room the loss of heat from the patient by radiation is much less than when the operation is done in a

cool room. Loss of heat from the patient can be lessened also by the manner in which she is dressed. It is best that she be well wrapped in blankets, and that as little of the skin surface be exposed to the air as the necessities of the particular operation permit. For the same reason the use of wet towels of gauze about the patient is to be deprecated. Evaporation from such wet materials chills the patient. Much can be done also by the proper administration of the anesthetic. Patients should not be drowned in ether. Enough only should be given to maintain anesthesia, unless, to meet a certain indication, absolute relaxation is required. The prevention of hemorrhage and the avoidance of rough handling of the patient, especially of the abdominal viscera, are matters of the greatest importance in preventing shock. The careful surgeon gives due attention to each and all of these matters of detail, and no one so much appreciates their importance as he who has to deal constantly with grave operations. This applies especially to the abdominal surgeon, because, in many cases, when he begins an operation the life of the patient depends upon its completion. He can not do a part of it and postpone the rest to another day. In many of the long, tedious operations which he is called upon to do, involving multiple visceral adhesions, the very life of the patient itself depends upon attention to every detail to prevent shock, so that he may have time to complete the operation *secundem artem*.

The active treatment of shock consists in supplying to the body heat which has been lost, in stimulating the heart to better work, in counteracting nervous depression, and in overcoming irregular action, especially on the part of the vaso motor nervous system, until reaction shall occur and the vitality of the patient can be sustained by alimention. In describing the treatment of shock I shall simple give an account of my own practice in the treatment of this condition.

If, during the operation, the patient begins to suffer from shock and there is reason to expect that this will increase, especially if the operation is not yet completed, I begin at once actively to treat it. A fifteenth of a grain of sulphate of strychnine and a fiftieth of a grain of digitaline is given hypodermically, and the dose of strychnine is repeated every fifteen minutes until some improvement is manifested in the pulse or a fifth of a grain has been given. If improvement does not mani fest itself promptly, and especially if shock be profound, or if the patient has been markedly prostrated before the operation, a hundredth of a grain of atropine sulphate and two or three minims of a one per cent aqueous solution of nitroglycerin are given hypodermically. In still other cases from three to six grains of citrate of caffeine are administered in addition. During this time the hot-water bottles have been put about the patient, and if the operation is an abdominal section, at times warm water is poured into the peritoneal cavity. I have also employed hot beef-tea enemas, but, as a rule, an enema is not given, because it interferes with the completion of the operation, which is just as important as any one detail in the treatment of shock, if not more so. In fact, it is of the highest importance to complete the operation as rapidly as is consistent with safe work. The same is true of the after-dressing of the patient, who should be put to bed as promptly as is feasible.

The bed should have been warmed by having hot-water bottles in it while the operation was in progress, and in all cases in which shock is a marked feature the sheets should be removed and the patient placed between warm, dry blankets. At this stage the use of whisky by enema is of service, and at times it is proper to use whisky during the operation, especially if shock is not another name for too much ether. The use of whisky or alcohol in any shape is not good treatment for an overdose of ether. The best way to employ whisky, as a rule, is to give it by enema with hot beef tea—about two ounces of whisky and six ounces of beef tea. Dry friction with the hand or with a dry cloth, especially to the extremities if they are covered with clammy perspiration, will do much to bring about reaction, and also will lessen radiation from the surface by preventing evaporation of the perspiration. Morphine in small doses, an eighth of a grain or less, is also useful as a heart stimulant and as an anodyne if, when the patient becomes conscious, there is marked pain. The morphine not only acts as a stimulant itself, but prevents depression which would result from severe suffering. So much for the immediate treatment of shock. Under ordinary circumstances, when the shock is marked and yet not so profound as to be alarming, within half an hour strychnine can be pushed to a fifth of a grain, atropine to a fiftieth, caffeine to five grains or more, and digitaline to a twenty fifth of a grain, or, what is really better, tincture of digitalis to half a drachm, with the fiftieth of a grain of nitro-glycerin.

If the crisis passes and yet the patient remains in a markedly depressed state, the question of treatment for the ensuing twenty-four or forty eight hours comes up. The use of the external heat should be continued until the temperature of the body becomes normal, and even longer should the patient complain of chilliness. But the sheet anchors of safety are strychnine, digitalis, and whiskey. In a marked case it is my habit to give the following order: To give hypodermically sulphate of strychnine, a thirtieth of a grain, one hour; tincture of digitalis, fifteen drops, with the fiftieth of a grain of nitroglycerin, the next hour; three grains of citrate of caffeine the third hour; and an enema of whisky, two ounces, and beef tea, six ounces, the fourth hour. This order I have had carried out many times for twenty-four, forty-eight, and even seventy-two hours. In the worst of cases, for its temporary effect, cocaine has been employed in addition to the above, also small doses of morphine is much pain and especially if great restlessness were present. It is my experience that most patients will take a fifth of a grain of strychnine in twenty-four hours without manifesting symptoms of strychnism. I have not employed the heroic doses described

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by some writers, such as half a grain within two hours, but in a desperate case, watching it carefully, I should not hesitate to give repeated doses of a fifteenth of a grain every half hour for a short time until some symptoms of irritation of the spinal cord appeared. We certainly have no more reliable exciter of the nervous and muscular systems than strychnine, nor any drug which is more capable of maintaining its effect.

Digitalis is also a very reliable drug in the treatment of shock. It is capable of whipping up the heart to increased work, especially for a few days and until a sustained effect can be secured by alimentation. This is exactly what is required in the treatment of shock. Digitalis has, however, one effect which is undesirable. It causes a contraction of the arterioles, and thus increases arterial pressure, so that while it whips up the heart to do increased work, it also hinders the heart through the increase in arterial pressure; hence it is wise in the treatment of shock to combine digitalis with nitroglycerin, which overcomes this bad effect of digitalis. The combination is much more effective than either drug alone. Caffeine is a pure heart stimulant and can be admiuistered freely without evil consequences. Alcohol used judiciously and in not too large quantities is one of our most important remedies. In shock following abdominal operations it is best administered by enema combined with beef tea, which is itself a stimulant. Later in this case champagne by the mouth is often of service, but it fills a partial indication and is not to be compared in value with whisky when this can be ingested and retained.

The management of the diet in the treatment of shock is also important. Immediately after an operation, accompanied by much shock, the stomach, as a rule, is not retentive; hence it is wise for a time in no case to administer much aliment of any description by mouth. Some hot black coffee or hot beef tea is as much as should be given. When the stomach becomes retentive, light, easily assimilable food should be employed, as beef tea, broth, milk (preferably peptonized), eggnog, punch, etc. These foods should be administered in small quantities, frequently repeated. The question of alimentation is the treatment of shock following abdominal operation offers certain peculiar difficulties. Under ordinary circumstances, when shock is not a special feature, it is the rule to administer no food to the patient who has had a celiotomy for from thirty-six to forty eight hours after the operation. Then broths or beef tea, from two drachms to an ounce, or two drachms of milk with one of limewater, are given every half hour, and if retained the quantities are increased and the intervals lengthened until about the fourth day after operation the patient is put upon liquid diet, the amount being regulated largely by the appe tite. But in cases accompanied by marked shock, if the stomach proves retentive, it is wise to begin the administration of milk or beef tea at the earliest feasible time, the quantity being increased as rapidly as in the judgment of the surgeon the patient is able to digest and assimilate. In some critical cases lives will be saved by judicious alimentation which would be lost were the usual rules applicable in abdominal surgery followed.

It may be questioned whether the term shock should be applied to conditions which persist for one, two, three, or more days. It is customary to consider that shock is of temporary duration, and that it ends either in the prompt death or in the recovery of the patient. But there are cases in which it is difficult to assign a name for the condition of patients if it be not shock. I refer to those cases in which the patient exhibits marked shock after operation, and in which, although after a time the temperature of the body becomes normal and remains so, yet the patient's vitality remains at a very low ebb, the pulse continues rapid, small, and feeble, the cutaneous circulation is not restored, the surface of the body being cool and pale, and where no other symptoms are present except those of pronounced asthenia. This condition must be called shock. The condition persists until it is relieved by alimentation, as the nerve and heart simulants—strychnine, digitalis, and even whisky—are not curative. I have had patients die in this condition as long as a week after operation without having manifested other symptoms than those of pure esthenia, and in which the post mortem examination showed no cause of death. On the other hand, I have seen patients recover from this condition, improvement becoming manifested upon the third, fourth, or fifth day, when it had appeared that death was imminent from failure of the heart and respiratory centers. It is in such cases that judicious alimentation is of the highest importance.

In this class of cases the administration of oxygen gas by inhalation is at times of service. All the vital functions are at such a low ebb that any agent which is capable of improving the processes of metabolism is of value. My experience with the use of oxygen for this purpose is limited to one case, which was one of marked shock following an operation for double pus tubes in a woman reduced to the last extremity by hectic. She went to bed with a pulse of 180, with cool and blue skin, and every other evidence of the profoundest shock. The pulse did not fall below 145 for three days, near the close of which period there was every indication of early death from pure asthenia. The plan of treatment already detailed was followed out in her case, and in addition axygen gas was administered during one day. It seemed to be of great benefit; at all events, she passed out of the shadow of death and made a good recovery.

The Toxicity of Viper's Blood.—The *Lancet's* Paris correspondent says that M. Phisalix and M. Bertrand have shown by experiments on guinea pigs that the poisonous properties of viper's blood are considerable, and that the symptoms induced are of the same nature as those provoked by the same snake's venom.

ABSTRACTS

MEDICINE.

Salicylic Acid as a Vermifuge.—Ozegovsky (*Nav. lek*, March, 1893) is reported by the *Union Medicale*, as strongly recommending the use of salicylic acid as a tenifuge. After a fast of twenty-four hours, the patient is to take at night thirty grams of castor oil. The next morning, at 7 o'clock, again fifteen grams of the oil are administered, followed by one gram of salicylic acid every hour until from eight to twelve doses have been taken. Should the tenia not appear at 1 P.M., another fifteen grams of oil must be taken. The author reports but one failure in twenty cases. E. C. R.

Theabromine in the Treatment of Cardiac Dropsies.—M. G. Lee (*Union Medicale*), reports excellent results obtained from the use of theabromine in such cases of cardiac dropsies as were not benefited in the least by any other diuretic. This substance is diomethlxanthine, and a homalogue to caffeine. In doses of four to five grams per diem, theabromine proved of remarkable efficacy as a diuretic, in seven cases recorded by M. Lee. He prefers it to digitaline, strophanthus, caffeine, calomel, milk and lactose; it is absolutely inoffensive; its action is much more prolonged; its administration is not followed by excitement as that of caffeine, or by deleterious effects upon the kidneys. E. C R.

Pathogenic Bacteria in the Saliva of Domestic Animals.—The *Annales de l' Institut d' hygiene experimentale de l' Universite de Rome* publishes the results of investigations by M. Piveca on this subject. The saliva of the horse contains three kinds (streptococcus, staphylococcus, spirillia). The saliva of the cat is rich in cocci and bacilli, one of them, the feline salivary bacillus, is entirely characteristic, and shows itself particularly fatal to rabbits which die twenty-four hours after inoculation. The saliva of the dog abounds in many varieties of bacteria some of which are pathogenic, notably the bacillus of pseudo malignant edema and the staphylococcus pyogenes aureus.—*Union Medicale.* E. C. R

Two Easy and Delicate Tests for Albumin in Urine.—Dr. C. Fouchlos (*Le Progres Medical*) recommends two new tests for albumin in urine, for which he claims utmost delicacy and absence of any possibly fallacy.

1. Add to the suspected urine a few drops of a 1% solution of corrosive sublimate; in case of turbidity, add some drops of acetic acid. If the turbidity persists it is due to the presence of albumin.

2. Take 100 cc. of a 10% solution of sulpho cyanide of potassium, and mix it with 20 cc. of acetic acid. Add a few drops of this mixture to the urine. If albumin is present in small quantities, an immediate turbidity will ensue; if in large quantities, a heavy white precipitate will appear. E. C. R.

Disturbances of Dentition.—Dr. Sejournet, of Revin, has attempted to elucidate the question of the influence of dentition on the health of infants through a long series of observations, and has published the result of his investigation in the *Revue des Maladies de l' enfance.* Among 734 patients of his own, 72 of whom presented deviations from health at the time of dentition, he found but seven cases in which the ailments were attributable directly and exclusively to teething. Local complications of dentition are very rare. M. Sejournet records only one case in which gingivitis with ecchymosis developed in the course of scarlet fever. The widespread notion of the dire influence of dentition on the general health is extremely exaggerated; still, it is erroneous to deny that influence in all cases as done by certain physicians. E. C. R.

BOSTON MED. & SURG. JOURNAL AUG 6 1895 LIBRARY ASS'N.

Hysteria in Children Simulating Organic Brain Diseases.—After commenting editorially upon the fact that hysteria in children is but little understood, the *Journal de Medicine et de Chirurgie* calls attention to the labors of Dr. Bardal (*These de Paris*). His observations go to show that most of the organic diseases of the encephalon—even those with the most complex symptomatology—may be simulated by hysteria.

Diseases with focal lesions are first spoken of, and the most curious among these is infantile spastic paralysis. The latter affection, as described particularly by Marie, is characterized by certain lesions of the cerebral cortex, that are productive of convulsive attacks, followed by a special hemiplegia. In the wake of the latter follow: arrest of growth with osseous and muscular atrophy in the paralyzed side; contractures with pronounced deformity of the limbs; hemi chorea and hemiathetosis; epileptiform attacks, sensory and mental disturbances and aphasia. To a certain point, hysteria may affect all those symptoms. The differentiation is easy in extreme cases, but it is beset with difficulties in milder ones.

Dr. Bardal reports a case of a twelve year old child who, at the age of five, was taken with convulsive attacks followed by hemi-chorea that lasted, with varying intensity, through seven years. After this, a contracture of the entire right side supervened, followed again by another series of convulsive attacks. There appeared in due time: deformities, trophic disturbances with shortening of the lower limb, and even a light degree of athetasis,—all of which led one to think of infantile spastic paralysis. But the gradual onset of the malady, the non-appearance of true epilepsy and of mental and aphasic disturbances, the absence of irreducible deform-

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ities, and of arrest of osseous development,—together with presence of well defined hysterical stigmata, as hemi-anesthesia, hysterogenetic spots, contraction of the visual field, and finally, the course of the disease, pointed clearly to hysteria. The case resulted in complete recovery, thus confirming the correctness of the diagnosis.

It is well known that epileptiform convulsions occur in the course of hysteria, but it is due to M. G. Ballet to have clearly established the existence of hysterical manifestations simulating partial epilepsy, and rendering the diagnosis of a circumscribed cortical lesion possible. The attacks of this pseudo-epilepsy ordinarily occur in series, and in such a case constitute a true epileptic state in the course of hysteria, Sometimes the partial hystero-epilepsy affects the hemiplegia form,—at other times the monoplegic; the latter may be confined to the face (facial monospasm). It is readily conceived that the diagnosis is difficult in all cases, but especially in those marked by absence of the "grand" paroxysms of hysteria (grand movements, plastic attitudes, hallucinations). The hysterical nature of the disease may justly be suspected if the temperature remains normal, if the attacks are not followed by paralysis, and finally, if the patient remains free from any profound derangement of mind and vitality.

Contractures as well as paralysis of a cortical origin may be simulated by hysteria, the former being by far less frequent than the latter. Here are briefly, some differential signs in the cases of paralysis: A sudden onset favors strongly the diagnosis of an organic corti cal lesion, particularly if the monoplegia is preceded by apoplectiform phenomena. Hysterical monoplegias are preceded by a period of incubation, during which develops the influence of the initial nervous shock. The consideration of the form and nature of the anesthesia will prove of the greatest moment in the attempt at differentiation. While the anesthesia, deficient in cortical paralyses, it affects not only the skin but also the deep parts in the hysterical paralyses. It is manifested in all the forms of sensibility, and is accompanied by loss of the muscular sense. The distribution is pathognomonic: it occupies exclusively the paralyzed limb or the paralyzed portion of the limb, and is bounded by sharp circular lines that run perpendicular to the long axis of the limb. M. Charcot has named this detention "mor phological," in contra distinction to the anatomical distribution of the anesthesia due to nerve lesions.

M. Bardal concludes his work with remarks on hyste rical manifestations simulating disseminated cerebral lesions, as typefied by acute and chronic meningitis. The symptoms of the former may be all affected by hysteria. The differential points are the following: The hysterical cephalalgia comes on in "crises" and co-incides with the presence of hysterogenetic zones of the scalp. The examination for these zones, to be made between the crises, is of utmost diagnostic value. Professor Pitres asserts that hysterical pseudo meningitis is very rarely accompanied by fever, and that the pulse may be accelerated or retarded but never irregular as it is found in true meningitis. In every case the physician will do well by searching for the various hysterical stigmata. E. C. R.

Gold and Sodium Chloride in Chronic Bright's Disease.—Dr. G. Dowkontt (*Sem. Med; Amer. Med. Surg. Bull*).

Gold and Sodium Chloride, being at the same time a diuretic, diaphoretic, and alterative, the author was induced to employ it in the treatment of chronic parenchymatous nephritis, in which the skin is usually dry and the quantity of urine diminished.

This treatment, it is said, always yielded excellent results, excepting in cases of far advanced or very com plicated Bright's disease (hydrothorax or hydropericardium of long standing). The author has, in fact, employed the treatment thus far only in the idiopathic forms of chronic parenchymatous nephritis, not having had an occasion to test it in cases in which Bright's disease supervenes in the course of other affections. He administers it in 1:60 aqueous solution,—giving 10–12 drops six times daily in adults; less in children, according to age.

If the renal affection is complicated with gastro-intestinal disturbances, it is advised to commence with small doses,—two drops 4–6 times a day,—the dose to be increased as the digestive functions improve.

The treatment is continued until albuminuria is completely suppressed,—even for months. Its effect is first felt after varying periods of time, sometimes not even for a month. It manifests itself by the re-establishment of the sudoral function, increase of diuresis, diminution and final disappearance of albumin in the urine, and disappearance of the general symptoms of Bright's disease. The improvement in the author's cases has been so considerable that the patients have been able to resume their occupations, and have been considered cured. No recurrence has thus far supervenced in these patients, it is reported.

The curative action of the gold and sodium chloride being very slow, the medicament is not serviceable in cases with acute uremic symptoms. The uremia must first be combated by drastic purgatives (calomel and jalap), before the chloride is resorted to.

As to diet, the author permits his patients mixed nourishment, provided it is sufficiently nourishing and contains many vegetable substances, which seem to exercise a favorable influence upon the matabolism in such patients.

Should diarrhea supervence, the patient is subjected to absolute milk-diet until the intestinal disturbances have entirely disappeared.

Atropia-Poisoning from Eating Turkey.—H. H. Seelye, M.D., of Amehrst, Mass. (*Med. Rec.*) says:

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In a young ladies' boarding school in this place fifteen

people sat down to their Thanksgiving dinner. When they had been at the table about three quarters of an hour they all began to notice an uncomfortable dryness of the throat, mouth, and lips. Then some noticed a sense of dizziness which was more marked when they left the table and attempted to walk. Vision was so affected in two or three that they were unable to read ordinary print, the lines being blurred. These proved to be girls with a high degree of hypermetropia, in whom accommodation was paralyzed. This led them to look into one another's eyes, and they noticed that in all, the pupils were markedly dilated. A few had flushed faces and some headache.

I was summoned to visit them about four hours after they had finished eating. Their experiences at the table had not prevented their eating the usual large-sized Thanksgiving dinner. The symptoms described above still persisted, the dryness of the throat and dilated pupils being universal. On inquiry I found that turkey, of which there were two, and water were the only articles on the table of which all had partaken. Some had eaten no dressing and some no gravy. I examined and drank some of the water, which appeared perfectly natural. This led to suspicions of the turkey, and I asked for some piecee to take home to examine. These I received and departed.

That same evening I cut off about an ounce of brown meat, an ounce of the breast, and a small piece of the skin and made a hash of them, which I steeped in a little warm water for about an hour. Then I filtered off some of the liquid and placed a drop in my left eye. I added others drops at intervals of a few minutes. In half an hour I noticed a slight enlargement of the left pupil, and in an hour it was dilated to double the size of the right one. The difference was slight on looking at a bright light, but very marked when directing the eye toward a dark object. This dilatation continued till midnight, when I retired. On examining my eye in the morning, I found both pupils alike. When I called that forenoon at the school to report the result, I found most of the dryness of the throats gone and the pupils of natural size, but one or two could not see to read clearly yet.

How to account for the peculiar effects of eating those two turkeys is a puzzle. The butcher who supplied them was not sure whether they were raised in Michigan, Vermont, or Massachusetts. Other turkeys probably came from the same place, but I have not heard of any similary effects being produced anywhere in town. No atropia or other suspicious material had been lying about the kitchen or used by the cook. It seems most probable that the turkeys had fed on some of the leaves or seeds of some plant of the mydriatic group growing on the farm where they were raised. It is a proven fact that birds are not at all affected by atropia in doses that would severely poison other animals. Though the proof is unsatisfactory, it seems that the flesh of these turkey must have become impregnated with either belladonna, stramonium, or hyoscyamus ingested with their food, in such quantities as to produced physiological effects in thirt or forty people if they had eaten all of the flesh of these birds. What was left of the turkeys was burned.

The Value of Tuberculin as a Test for Tuberculosis in Cattle.—Probably few physicians are aware of the enormous practical value in the animal industry of tuberculin; that is to say, if the position taken by the New York and other State Boards of Health regarding it is correct (*Med. Rec.*). A gentleman who has a valuable herd of thoroughbred cows writes us that twice within the last six months his herd has been examined by competent veterinarians and pronounced healthy. A third examination, however, with the aid of tuberculin, caused a comdemnation of over one-half the herd. He adds:

"The New York State Board of Health is killing by the hundred animals condemned by diagnosis with tuberculin, and the State is paying full value for them. The veterinarian says that the antopsy shows the diagnosis to be correct in every case. He says also that it is impossible for the best veterinarian to discover tuberculosis by physical examination except in extreme cases. My herd is apparently in splendid condition. Breeders do not know of its existence in their herds. They let a cow remain in the herd until she is unquestionably tuberculous and then remove her, but she has then already infected the herd. A temperature of 103° F. comdemns the cow. In a herd of Jerseys, at Troy, of 80 head, he has killed 33, and will kill 20 more of them this week. Autopsies are held in the presence of physicians and veterinarians. There have been 15,000 tests with tuberculin in England. New York evidently believes in this kind of diagnosis, and will probably have to pay $500,000 to eradicate tubereulosis. The veterinarian says the State is full of it in herds both of thoroughbreds and common cows."

We understand from other sources that the State Board of Health fully believes in the certainty of the tuberculin diagnosis. Through its means it has been discovered that some of the best bred herds, supplying high-priced milk, cream, and butter are infected.

SURGERY.

Quinsy and Its Treatment by Early Incision.—At the late meeting of the American Climatological Association Dr. J. W. Brannan, of New York, read a paper in which he very ably advocates early incision in this very distressing and comparatively prevalent trouble.

The paper appears in the *Medical Record* of October 28th, and from it we have taken the following (*Canad. Practitioner*):

Most cases result in the formation of pus, and until this is evacuated, either spontaneously or by incision,

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the patient's misery is extreme. The general practice, at the present day, is to give vent to the pus as soon as its situasion can be determined. The instantaneous relief given by an opening in the right place is most striking. On the other hand, scarification of the tonsils, as is sometimes recommended, does no good, and usually aggravates the patient's condition.

I have asked the opinions of a number of medical men, including both laryngologists and general practitioners, and their answers have been pretty much to the same effect. Specialists say that the abscess is usually situated outside the tonsil, in the anterior or posterior pillar of the palate or in the palate itself. They believe in giving free vent to the pus wherever found, and are convinced that the operation is attended with no danger, if properly performed.

On consulting the literature of the subject I found the most recent authorities agreed as to the location of the suppurative process and the proper point for incision. Chiari, Bosworth, and Shec state that the inflammation begins in the connective tissue about the tonsil, and usually extends into the soft palate. They advise that the opening should be made at the point I have already indicated, namely, midway between the uvula and the upper alveolar process of the affected side.

Rice, in a careful study, published some two years ago, came to the same conclusion as the above, except that he usually prefers to puncture through the anterior pillar of the fauces.

"The relations of the tonsil to the internal carotid artery are not so intimate as commonly is supposed, for between the lateral wall of the pharynx, the internal pterygoid, and the upper cervical vertebræ, there is a space filled with cellular tissue, the "pharyngo-maxillary interspace," in the posterior part of which are located the large vessels and nerves, and which lies almost directly backward from the pharyngo-palatine arch. The tonsil corresponds to the anterior part of this interspace, so that both carotids are behind it, the internal carotid 1.5 centimetre, the external carotid two centimetres distant from its lateral periphery. Hence, the danger of direct injury to the internal carotid in excision of the tonsil is infinitely small."—*Delevan.*

Zuckerkandl has made a most careful study of this region. The drawings made from his dissections show that the pharyngo-maxillary space is divided by the stylo-glossus and the stylo-pharyngeus muscles into an anterior and a posterior chamber. The anterior chamber is contiguous to the tonsil; the posterior chamber contains in its hindermost part the internal carotid artery, the jugular vein, and the vagus nerve. The two chambers are filled with fat and loose cellular tissue, and communicate with each other by a very small opening, which gives passage to the inferior palatine artery.

It is probable, as suggested by Chiari, that the anterior chamber of the pharyngo-maxillary space is alone involved in the great majority of cases of quinsy. The firm wall formed by the muscles described by Zuckerkandl prevents the passage of the pus into the posterior chamber, whereas the tissues of the soft palate yield readily to the advancing inflammation. In rare instances, however, the pus does force its way backward between the stylo glossus and stylo-pharyngeus muscles, with the results to be indicated later.

The soft palate, through which the evacuating incision is usually made is distant in adults at least three centimetres from the vertebræ against which lies the internal carotid artery. Even in the child the space is considerable larger relatively than in the adult. I have lately had the opportunity of dissecting a number of newborn infants, and in no case did the distance between the palatal border and the anterior surface of the spinal column measure less than 1.5 centimetre. These measurements apply to the normal pharynx. In the condition we are considering, the soft palate is pushed so far forward by the purulent collection that its anterior margin must be nearly double its normal distance from the vertebræ. An incision of even two centimetres in depth could not, therefore possibly reach the internal carotid artery. The ascending pharyngeal artery, which has been thought to be wounded in some cases, also lies on the vertebræ, and is therefore equally out of reach of the knife.

The above cases comprise all those I have been able to find recorded in which excessive hemorrhage has followed incision of an abscess in or about the tonsil. And in no one of them was it proved that the internal carotid artery was wounded by the knife of the surgeon. But there is another danger to be considered in operating on a phlegmon of the fauces,which has been alluded to in the histories of the cases of Duke and Murphy. A number of instances have been reported of fatal hemorrhage in quinsy in which autopsy showed an eroded or ruptured artery, generally the internal carotid. Both Bosworth and Chiari mention the occurrence of this accident, but neither one connects it with the operative interference of the attending surgeon. And yet it is the evacuation of the abscess into the pharynx, whether spontaneously or by incision, that causes the rupture of the weakened walls of the artery, or allows free escape of the blood already outside of the vessel, but pent up in the pharyngo-maxillary space.

It has long been held by surgeons that the walls of arteries are proof against the destructive action of pus so that even prolonged contact with it does not cause perforation of the vessel, unless there be local mechanical irritation, as from a drainage tube or a bony sequestrum. When Liston reported his celebrated case of spontaneous perforation of the common carotid artery fifty years ago, the London Medical and Surgical Society refused to incorporate it in their Transactions and he was obliged to publish it at his own expense. Since that time, however, other cases, equally striking, have been recorded, and it can no longer be doubted that spontaneous ulceration of arteries does occur simply from the corrosive action of pus.

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Vergely believes that the vicinity of the air passages is the great local exciting cause of the accident. Micro-organisms and foul gases are constantly inspired and expired, and may easily give a septic character to the pus in the neighborhood.* According to Varneuil, the outer arterial coat becomes thickened in an abscess cavity, if neither fever nor septicemia occurs. But if these complications arise, the protecting cover disappears and the artery is denuded. In angina the pus and gases confined in the pharyngo-maxillary space kill the arterial wall before compensatory hypertrophy has time to take place. Probably the septic character of the pus, combined with pressure, are the important agents in eroding the artery. Hence the supreme importance of relieving the tension of the parts even if suppuration has not yet taken place. Bosworth tells us that we may expect the formation of pus by the end of the second or on the third day. In protracted cases, lasting ten days or two weeks, suppuration is not delayed, but the abscess is probably deeply seated in dense tissue and approaches the surface slowly.

Conclusions.—1. In quinsy, the inflammatory process is usually situated without, and not within, the tonsil. 2 If pus forms, it should be evacuated at the earliest moment possible. 3 Unless there are signs of pointing elsewhere, the incision should be made through the soft palate directly backward. 4. If the tension of the parts is very great, the incision is indicated, even though pus has not formed. 5. If ordinary surgical care is exercised, there is no danger of wounding the internal carotid artery. 6. In cases of deep seated inflammation, in which the pus comes to the surface slowly, erosion of the arteries in the neighborhood may take place. In such cases, therefore, we must be ready to deal with arterial hemorrhage at the moment the abscess discharges into the pharynx.

Some More Intubation Statistics. — In the much vexed question of the relative merits of tracheotomy and intubation, there is one factor which should be allowed its due weight and which has not yet been sufficiently regarded, namely, the availability of the one or other operation in private practice. So far, the greater number of cases reported, upon which statistics and arguments have been based, have been those occurring in hospital practice. The operation of intubation is so comparatively new that the general practitioner has, as a rule, not seen a sufficient number of cases to base an opinion upon. It is for this reason that the publication of small individual experiences is likely to be of more frequent occurrence during the next few years, and of considerable value, especially when published unincorporated with other statistics.

Dr. R S. Stanton, of New York, reports in the *New York Medical Journal* 70 cases intubed by him in the course of general practice, all but two having occurred in tenement houses, where for obvious reasons the patient's chances for recovery were poor. "Of these 70 cases, 46 terminated fatally, and the 24 recoveries gave a percentage of 34.3 successful cases. Of the 46 deaths, 14 were due to extension of membrane, five to sepsis, four each to asphyxia and pneumonia, three to uremic convulsions, and two each to exhaustion, pulmonary edema, nephritis and bronchitis." Of the four deaths from asphyxia, two were apparently due to membrane pushed down ahead of the tube, and two followed upon the child's pulling out the tube in the physician's absence. One of the deaths from pulmonary edema seems hardly to belong to the unsuccessful cases of intubation as the death occurred four days after the removal of the tube, which had been worn a week, and without any occurrence of laryngeal obstruction.

Of the cases operated on, 42 were males and 27 females, one not noted; 15 males recovered (or 35.7 per cent), and 9 females (or 33 3 per cent). The ages ranged from ten months to seven years. The youngest successful case was fourteen months, the average age being three years and five months. Three cases (one fatal) had secondary tracheotomy. The longest period during which a tube was worn was sixteen days, by a girl four years old. In three cases the tube was passed into the esophagus and swallowed; in two it was passed in the dejecta on the second and fifth day. The other case died of sepsis after secondary tracheotomy, within twenty four hours.

Dr. W. B. Johnson, of Paterson, N. J., reports in the *Journal of the American Medical Association* 19 cases with six recoveries, one after secondary tracheotomy. Nine boys were operated upon, with five recoveries, or 55.5 per cent; while 10 girls gave one recovery or 10 per cent. The recovery after secondary tracheotomy was in a boy three years and four months old. Of the 13 deaths, two were due to extension of the membrane, three to sepsis, two to asphyxia from membrane, and two each to pneumonia, cardiac paralysis and exhaustion The youngest child to recover was a boy two years and seven months old. The longest time a tube was worn was ten davs.—Boston *Medical and Surgical Journal.*

Teucrin in Local Tuberculosis.—The December number of *Les Nouveaux Remedes* refers again to the efficiency of teucrin as a remedy in the treatment of local tubercular affections. Mosetig-Moorhof, according to the *Wiener Medicinische Presse,* has been giving the drug a fair trial and is highly satisfied with the results. The medicament is used subcutaneously at the base of the degenerated tissue, and cures by causing sloughing of the tubercular parts. Great judgment must be exercised, it is said, both as to the quantity of the drug used and as to the number of applications; one is to be guided entirely by the slowness or rapidity of its action. The author has never seen any systemic reaction to the drug exhibited, and thinks that, employed with care, it is a very safe and sure remedy for the extirpation of local tuberculous disease.—*Med. Rec.*

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MEDICAL SOCIETIES

Society of Anesthetists.

We are indebted for this report to the *British Medical Journal*. At the first ordinary meeting held on Thursday, November 16; the President, Mr. F. Woodhouse Braine, in the chair.

Dr. George Oliver, of Harrogate, communicated the results of some preliminary observations he had made on the size of the radial artery under various anesthetics as measured by means of an instrument specially devised by him for that purpose. The measurements collected so far showed that the radial diameter is independent of the frequency of the pulse. It is increased under ether, and much and suddenly diminished under chloroform. With nitrous oxide there is at first a sharp rise and then a corresponding fall; when oxygen is inhaled along with the nitrous oxide in the manner suggested by Dr. F. Hewitt, the radial diameter rises, and does not subsequently fall. When chloroform is preceded by ether, or a mixture containing that drug, the reduction in the size of the artery due to chloroform is checked, or there may even be a slight rise; in the same with A. C. E alone. The alterations in the radial measurements due to ether, nitrous oxide gas, and ether, and A. C. E. do not exceed the limits of normal variations observed in healthy individuals; on the other hand, the depletion of the arteries recorded under chloroform is considerably below that normal. He thought that with ether alone the size of the arteries might favor cerebral and pulmonary hemorrhage, and on that account he preferred as a routine anesthetic the A. C. E. mixture.

The President, on behalf of the Society, thanked Dr. Oliver for his most interesting communication. He had been administering ether for a good many years, but had certainly not seen, at the outside, more than four cases of pulmonary hemorrhage following its use.

Dr. Dudley Buxton thought the line of investigation suggested a valuable one, although arterial diameter might not be a measure of blood pressure. Dr. Oliver's instrument might be of service in investigating those vaso-motorial changes, upon which variations in blood pressure were more or less dependent. He thought that a very large number of observations would have to be made before drawing definite and practical conclusions, as the problem was a most complicated one. He was much struck by the alterations suggested when the anesthetic was changed in the course of a single administration, as it was commonly believed that such changes were dangerous.

Dr. Silk did not quite understand what relation these observations bore to intravascular pressure. He had for some little time been in the habit of changing from one anesthetic to another, but he had never seen any ill-effects follow the proceeding.

Mr. Tyrrell did not think that to a practised anesthetist there was any danger in changing the anesthetic provided that the changes were not too sudden, and that the air was not rigidly excluded; in hospital work, however, beginners were very apt not to observe the latter of these requirements. He was now working with mixtures of the vapors of ethers and chloroform, and hoped to communicate his results at a future date. He felt sure that he had not seen such sudden and complete diminution in the size of the vessels under chloroform as recorded by Dr. Oliver, and though that they might possibly be accounted for by the method of administration employed.

Mr. Grant Morris thought that the nature of the operation, and the condition of the patient as regards shock, loss of blood, etc., might have something to do with the results obtained.

Dr. F. Hewitt thought that the stage of the administration at which the observations were made should be known. Many cases of chloroform inhalation occurred in which the pulse remained unexpectedly full and soft throughout. He thought that it was objectionable to employ chloroform before ether, but preferred to use the A. C. E. If chloroform were used after ether, care should be taken to give it very gradually, as the excited respiratory movements might otherwise lead to an intake of an overdose.

In reply, Dr. Oliver said his observations had led him to believe that blood pressure was by no means coincident with radial diameter. He did not think that the severity or prolonged character of the operations accounted for the reduction of the artery under chloroform, but he had reason to believe that various proceedings, such as cutting, traction, etc., were quickly apparent in the reading of the instrument. At the close of the meeting Dr. Oliver showed and demonstrated the use of his two instruments, the pulse-pressure gauge and the arteriometer.

Cincinnati Academy of Medicine.

We are indebted for this report to the *Medical News*:

A Case of Malarial Hematuria and One of Leukemia.

Dr. Whittaker presented first a case of hematuria, the obtrusive symptom being that the patient passed blood in his urine. He suffered in this way, he says, a number of years, and finally came to look upon the condition as an incurable malady. The urine showed an unusual amount of blood, and the patient, though a large man, was profoundly anemic. I at once entertained suspicion that it was a case of malaria, but though the patient declared that he had never had malarial fever, that is, that he had never had chills and fever, we examined his blood and found in it absolute evidence of malaria. We put him upon quinine and the hematuria began to disappear.

The case is exceedingly interesting as showing the

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exactness with which a diagnosis can be made from a drop of blood. I have also here three specimens of the urine. The tube on the extreme left contains urine discharged when he first presented himself; the tube in the middle, urine after treatment for one day, and the tube on the right, urine after treatment for two days. The first tube is black, the second brown, the third yellow. I do not wish to take up the time of the Academy with this case, for I have here one of even greater interest.

This gentleman was sent to my surgical confrere, Dr. Ransohoff, to be operated upon for the relief of an abdominal tumor. His history can be epitomized as one of abdominal tumor with progressive marasmus. The patient became aware of the tumor and of the weakness at about the same time—in March, about eight months ago. The tumor was a mass in the left side of the belly. When I saw him first, a few days ago, he showed about the same appearance as to-day. Strange to say, he has rather the hue of health, and no one would consider him anemic. His face is full, the veins about the temple rather over-full, and his expression is cheerful. This tumor, which fills up and distends the left side of the abdomen, is very hard, yields no fluctoation, and bulges below. It seems to be the spleen. There is also a tumor in the region of the liver, which is apparently an enlargement of this organ. The lymphatics in the neck and groin are slightly yet distinctly enlarged. The patient has felt no pain in the region of the spleen, nor has he experienced any discomfort, except that connected with the mere fact of distention. There is no tenderness even on pressure. The legs show abundant pigmentation. The patient seems to be truthful, and he declares that he has had gonorreea but has never had syphilis. Interrogated about hemorrhage, he recalls the fact that he had nose-bleed several times, first a year or so ago, and occasionally since.

In explanation of the tumor we had to consider syphilis, sarcoma, and leukemia. All that spoke in favor of syphilis were these spots on the legs. There was no other evidence to be found, unless the adenopathy could be so considered. Sarcoma could not be so lightly dismissed. The diagnosis of leukemia was favored by the history of nose-bleed and the enlarged glands of the neck and of the groin, the latter perhaps not more than twice their natural size. Against this diagnosis is the apparently healthy hue and condition of the man. It was, of course, impossible to go further into the study of the case without an examination of the blood. This examination was made by Dr. Greiwe, and he will report upon the condition, and show you some beautifully colored specimens, after which, with the permission of the Academy, I shall continue my report.

Dr. Greiwe said: The count of the red and white blood-corpuscles of this patient with the hemocytometer showed that there were only 2,480,000 red, the proportion of the white to the red being 1.3, whereas most writers give it as 1.355, and some 1 to over 800. Microscopically, the blood was not very pale, but it was sticky; the microscope showed that the vast majority of the white cells were the small leukocytes, next the large leukocytes, numerous eosinophile cells, blood plates, and numerous nucleated red blood-corpuscles. One specimen is under the microscope, which verifies the diagnosis of leukemia. The white blood-corpuscles have been stained, and the red are only faintly outlined.

The report of this case shows not only enlargement of the spleen, but also enlargement of the liver; and, owing to that fact, I have brought down a specimen of a patient who died in Berlin of leukemia within eleven days from the onset of the trouble. I reported that case in the *Berliner klinische Wochenschrift*, and believe the history proved the case to be of long standing, although the patient considered himself perfectly well, until he was compelled to go to bed. In that case the spleen was enlarged as much as in this one. It had been diagnosticated as scurvy, but it proved to be a most remarkable case of lymphatic leukemia. Some authors have denied that it is possible, from staining the blood, to distinguish the various forms of leukemia, that is, whether it is splenic, lymphatic, or myelogenic, whereas others claim that it is possible from an examination of the blood to determine, from the character of the cells, which organ is most involved. Thus, one case that I reported was examined and pronounced one of lymphatic leukemia, although the enlargement of the lymphatic glands was very slight indeed. In another case I reported, in Berlin, the spleen extended into the pelvis, and could be distinctly outlined on the right side. That case, although it would likely be called splenic leukemia, showed all the features of the disease starting from the marrow of bone. The cells were characteristic of that. In this case, according to the statements of Ehrlick, Jaksch, and others, I should judge it to be a mixed form, that is, arising from both the spleen and lymphatic glands; but from the character of the cells, however, I would say the lymphatic glands are most involved, although the enlargement of the spleen is more marked than that of the lymphatic glands. The increase of the white cells is mainly due to the small leukocytes, and, next, to the large leukocytes. Some have a double nucleus, others a large nucleus. In making a diagnosis of leukemia from an examination of the blood, it is very important to bear in mind the character of the cells. There are cases that very closely resemble leukemia and yet are quite different. The cells of leukocytosis usually have more than one nucleus. That is characteristic of leukocytosis, and not of leukemia. The diagnosis is made from the abnormal increase of those which are not multinuclear.

Dr. DeBeck.—Upon examining the patient's eyes this afternoon, I found the fundus not especially pale; neither was I able to obtain the characteristic orange-yellow tint with the ophthalmoscope. That may be due to using ordinary gaslight, for I was not able to examine him by the electric light or by daylight. Both eyes show a neuro-retinitis. The arteries seem but slightly, if at all, narrowed, but the veins are considera-

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bly enlarged and exceedingly tortuous. The exudation is such that at many points the vessels are quite obscured. Particularly in the region of the disc I noticed the streaked appearanc of the fundus which is charac teristic of neuro retinitis; but what is very characteristic in this case is the presence of minute hemorrhages. These are very striking, running along the course of the nerve-fibers. There is a peculiar condition to which attention has not before been called, with which we are perfectly familiar in embolism of the central artery. This is the cherry-red spot at the macula. It is probably simply a contrast appearance, the thin *fovea centralis* allowing the red to show through, and this appearance is heightened by the blurred retina about the macula. In the region of the right macula there are some larger hemorrhages, and just at the edges of the right disc is one of the characteristic minute round glistening spots to which attention has been called. The whole condition taken together gives quite a typical picture of leukemic neuro-retinitis, to which attention has been called by Liebreich, and of which a very excellent drawing is given in his *Ophthalmoscopic Atlas*.

With all of these changes vision in each eye is little below normal, although it is not $^{20}/_{20}$ sharp.

Dr. Stricker.—I am very happy to have seen the fundi of this man's eyes, for I have never known a similar case, although I have read considerable on the subject and seen many ophthalmoscopic pictures. One feature, by which alone a diagnosis could have been made, is the hemorrhages. These take on a peculiar form, entirely different from that seen in any other form of hemorrhage, namely, a red ring with a white center; the white corpuscles congregate in the center, while the red corpuscles form a ring around them.

Dr. DeBeck has spoken of the cherry red spot, seen in cases of embolism, directly in the macula. This is a contrast-effect due to the pallor of the retina, the red, shining through at the thin macular region, being due to the choroidal circulation. Here in the case before us the condition is quite different. There is an actual diapedesis of the corpuscles, white and red, through the vessel-walls, and it has never been properly explained why, in this form of disease, they should arrange themselves so peculiarly, all the red surrounding the white, which are grouped together. All this is found in no other ophthalmoscopic picture, and when seen is pathognomonic.

The papilla likewise shows a peculiar and interesting condition. It is swollen, edematous, and in many places covers the vessels which pass out from it; but, above all, it has a paleness that is never present in papillities. This is likewise due to exudation of large numbers of leukocytes, which have caused the swelling of the papilla and give it its peculiar choked appearance.

Dr. Kramer.—With this blood there can be no doubt of the diagnosis of leukemia, but I would like to suggest sarcoma of the spleen as a possible cause of the leukemia. A number of cases of so called idiopathic leukemia have upon post mortem examination revealed sarcoma of the spleen. I particularly recall a case of well-marked leukemia that occurred in the service of Dr. Forcheimer at the Children's Hospital almost six years ago. Transfusion was practised in this case with no benefit, and post mortem examination revealed multiple sarcoma of the spleen. I think a little weight would be lent to this diagnosis in the present case by the size of the tumor, and I should like to have the gentleman who presented the case discuss the differential diagnosis

Dr. Langdon.—The case calls to our mind the exactness with which a diagnosis may be made by means of the microscope and other instruments of precision; still I think we are likely to be misled even with them. The only case of leukemia I ever saw was in consultation with Dr. D. D. Bramble, of this city. Briefly it was as follows: A man, about thirty-two years of age, was suffering with an apparently enlarged spleen. An examination of the blood showed white blood-corpuscles present in the proportion of 1 to 20 of the red. An autopsy in that case revealed a large spindle-celled sarcoma involving the psoas muscle and extending into the spleen, so that it was continuous with it, and the spleen itself was enlarged. The remark by the previous speaker, that these symptoms may be due to multiple sarcomata, recalls the fact that the sarcoma need not be multiple. The tumor in the case I have spoken of was probably as large as a child's head, and a microscopic examination showed it to be a spindle-celled sarcoma. This man had even the spongy gums and the scorbutic tendency, and was markedly anemic, while he did not have the enlarged lymphatic glands. The diagnosis there was leukemia, which was evidently due to irritation of the spleen by the sarcomatous tumor. The tumor was not very movable, but it was quite large and had involved the surrounding parts to a great extent.

Dr. Greiwe.—The subject of sarcoma being brought up in this case, I would like to refer to a case reported by Dr. Ayres. It was a case of tumor of both orbits, and from an examination of the specimens we concluded that it was a form of sarcoma. While I was looking up the literature of that case I came across the report of a case by Dr. Dock, of Ann Arbor, who found a distinct leukemia a few days before death, with all the characteristic appearance of white corpuscles in the blood. In this connection it remains to be said that the true nature of leukemia is entirely unknown. By some it has been referred to as a sarcoma of the blood.

Dr. Ransohoff.—It was supposed in this case that the kidney was effected. I found that it was the spleen and believed the case one for the medical clinic. Subsequently I looked at the spots referred to rather carefully, and they impressed me as not like the spots from poison oak or ivy, but rather like those due to syphilis. The man had a number of these scars on his arms, and he also had enlargement of the posterior cervical glands, which is so characteristic of latent syphilis. So that, notwithstanding the fact

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that this patient tells us he has not had syphilis, I am of the opinion that the disease is at least of syphilitic origin. The scars are quite characteristic, and the fact that he has improved on potassium iodid leads me to believe the syphilitic theory is justifiable. We still, to a certain extent, must rely upon therapeutic tests. Sarcoma, I agree, is possible, but I think it hardly probable. In the first place, it is a very rare condition in this situation, and then we hardly expect to find so uniform an enlargement. The spleen usually has one or two notches in its border, and despite its enlargement these can usually, indeed almost invariably, be felt. I have never been able to find them in the patient. If it is a sarcoma and not a leukemic spleen, it, of course, should be operated upon, and the sooner the better. Cases have been reported in which complete recovery has followed removal of the spleen. If this is a leukemic spleen, of course, operative interference is out of the question. Patients usually die after the removal of a leukemic spleen. They die from the shock, and perhaps half of them die on the table. I think, in fact, only one case has been reported which recovered after the removal of a leukemic spleen, and even this has been doubted.

Dr. Whittaker.—We have now had the whole subject illuminated. The diagnosis is made absolute by the examination of the blood, while the symptoms, the epistaxis, spleen tumor, lymph-abdomen, and marasmus, take their places orderly in the course of this disease. Two allied conditions were mentioned in this study, leukocytosis and pernicious anemia, one a benign, the other a malign process. There is a great difference between a leukocytosis, and a leukemia, and that is the first thing to bear in mind in studies of the blood. A leukocytosis we welcome. It occurs, as a rule, in typhoid fevers and in pneumonia at the time of the crisis, which it is supposed to bring about by liberating antitoxine.

We try to produce this leukocytosis, artificially if possible, by the process of chemotaxis. A leukocytosis is an increase of the white blood corpuscles, but by no means to the degree of that of leukemia. One c mm. of blood contains five million red to from five to ten thousand white corpuscles. This is the normal ratio, but the proportion varies greatly even in health. In may be 1:400. It may be even 1:50 and not be truly patho logic. It is when the disproportion is greater than this 1:40, 1:20, 1:10, or as here 1:3, that the condition is pathologic. But if we should think that this disease, leukemia, is simply an increase in the proportion of white blood corpuscles, we make a great mistake. When an individual, the victim of leukemia, is bled, the red blood-corpuscles are restored just as in an individual not leukemic, but only up to the previous number; not to the natural number. That shows us that there is something that affects the whole blood, holding, as it were, the blood making functions down. Leukemia is, according to the present belief, some kind of an infection. Those studies are interesting that try to show whether the disease arises in the bone-marrow, in the spleen, or in the lmphatic glands. These things have yet, however, not the same interest as the determination of the cause of the condition. One marked change in many of the cells is their immobility. It would appears as if they were dead, while in leukocytosis they are alive. It is said that there is no case in which the bone-marrow is not affected, although it is, of course, affected in some cases more than in others. Tenderness of the bone is not noticed even in myelogenic cases. It must be remembered, too, that the lymphatic glands are often affected on the inside of the body and not on the outside.

Pernicious anemia distinguishes itself by poikilocytosis, by deformities of corpuscles, and defective arrangement, as well as by absence of lymphadenoma and tumor of the spleen, and more rapid progressive degradation. Leukemia occurs in the course of malaria, tuberculosis, rickets, syphilis, traumata, anxiety and depressing emotions, and oftener independently of discoverable cause.

A number of rapid cures of leukemia, hitherto considered incurable, have been reported recently from Scotland, under large doses of arsenic. I will try in order in the treatment of this case, quinin, potassium iodid, methylene blue, and arsenic, and report the results, or show the patient again.

A Large Infectious Hospital Plant.—London has been suffering from an epidemic of scarlet fever, and the existing hospital accommodations have been found wholly inadequate (N. Y. *Med. Jour.*). The total number of beds at the command of the Metropolitan Asylums Board has 3,300, whereas, not fewer than 5,000 beds are needed. Authority having been obtained by the Board, it has purchased land, at a cost of $60,000, thirty-three acres in all. Twenty-three acres have been selected for a prominent structure soon to be begun; ten acres will be used during the present emergency for the purposes of temporary buildings large enough to hold 400 beds. This temporary hospital will cost $300,000, and will be almost wholly needed for the scarlatina patients that are sent to hospitals from the southwestern parts of London. The cost of maintenance is stated at $50,000 per annum. There will be ninety nurses and assistant nurses. There will be sixteen pavilion, used as wards, each to contain twenty-four beds. The air-space for each bed will be 2,000 cubic feet.

Only French "Doctors" on the Riviera.—Under a law recently put in force, only physicians graduated in Franch are allowed to use the title "Doctor" in that country. Consequently the English and American physicians on the Riviera have been requested to remove the title from their door-plates. They will be allowed to retain their practices, if they were certified health officer prior to the enactment of the law.

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NOTES AND ITEMS

Manufacture of Atmospheric Air.—The production of atmospheric air by synthesis was recently demonstrated by Professor Dewar (*Med. Bull.*). Fluid nitrogen and fluid oxygen were mixed together in the proportion of four to one, and when they returned to the gaseous state the combination resulted in the generation of atmospheric air. This chemical procedure was unknown before Dewar.

Linear Atrophy of the Skin After Typhoid Fever.—The *Brit. Journ. of Der.* for December, 1893, contains the report of a case of typhoid fever in which lineæ atrophicæ appeared as a sequela (*Med Rec.*). The patient came under the notice of Sir Dyce Duckworth, M.D., three months after recovering from a sharp attack of the fever, complaining of extraordinary sensitiveness of various stripes on the outer side of the tights and on the legs above the malleoli. Examination of the parts revealed several longitudinal stripes of linear atrophy over the legs, with no other evidence of nerve disease. The occurrence of such a condition, together with the hyperesthesia, pointed, the author thought, to the neurotrophic nature of the lesion, and indicated that both trophic and sensory branches of nerves might thus give token of the damage wrought upon them by the special toxine of typhoid fever.

Nail-Biting as an Evidence of Nervous Disease.—Dr. Berillon, of Paris, who is chiefly known as a rather enthusiastic student of hypnotism, has published the results of what is announced to be a very elaborate study of nail-biting (*Med. Rec.*). He established the wide prevalence of the habit among French school-children. Thus, in a mixed school of the Department of l'Yonne the reports showed the following results:

	NUMBER EXAMINED.	NAIL BITERS.
Boys	29	6
Girls	21	11
Total	50	17

The proportion of nail biters here was for boys twenty per cent, and for girls fifty-two per cent.

In a boys' school at Seine et-Marne the pupils were examined with respect to age with the following result:

	NUMBER EXAMINED.	NAIL-BITERS.
12 to 14 years	18	7
13 to 15 years	16	6
15 to 17 years	18	3
Total	52	16

From twelve to fourteen seems from this to be the age most susceptible to this habit. A like experiment with girls shows them to be even more susceptible at this age.

	NUMBER EXAMINED.	NAIL-BITERS.
10 to 13 years	80	27
12 to 15 years	75	21
15 to 16 years	52	13
16 to 17 years	10	2
Total	217	63

In all the schools where the children have been the objects of careful and attentive observation, the reports have agreed in pronouncing that pupils observed to have the habit are universally the poorest students; that if boys they are inclined to effeminacy, and if girls to slackness. In many there are marked defects of character and less sustained attention. The reports of writing-masters also declare their writing to be, while sometimes well formed, universally less legible and less regular, and the instructors in the Parisian schools for manual training have pronounced the habitual nail-biters hardest to teach and often unfit for technical education.

Among such pupils some have shown brilliant intellectual traits. Some are possessed of an astonishing memory, or show exceptional adaptability to certain arts or certain special studies. Of these "infant prodigies" a large proportion are found to be nail-biters. In such cases the exceptional brilliancy was of unnatural and ephemeral growth, and vanished at the age of fourteen or fifteen. The extraordinary development had compromised the normal evolution of the nervous system. In schools for children from six to eight years old those pupils cited by the matrons as most incorrigible, and upon whom fell the constant discipline, were found, almost without exception, to be possessed of the habit.

In general, the nail-biters were found to be of decided inferiority, both from a point of view of intellectual development and from that of moral sensibility.

As to the cure, Berillon advocates strongly the grouping in classes of the children of the *lycees* who manifest the habit, where they may be subjected to special discipline and hygienic treatment on the order of that which is employed in the English system of reformatory schools. He is opposed to the isolation of pupils who have the habit, as practised in England, on the ground that cure by this means is only transient. Regarding the habit as an indication of nervous degeneration, he would, in all cases, begin by a careful system of food and exercise, and thus try by every means to fortify the nervous system of the child. For curing the after-habit, which continues when the cause has been removed, he employed his own treatment, which is as follows:

1. To create a counter-irritant and thus to transform by outward excitation the unconscious act into a conscious one.

2. To create a counter automatic impulse.

3. To strengthen the resolution of the child. He adds to these the treatment by suggestion while in hypnotic sleep.

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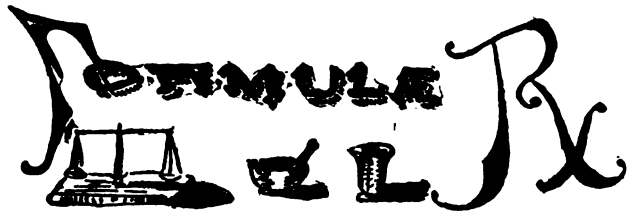

Renal Calculi.

℞ Ammon. benzoat., - - - - - - - - ℥ij.
Tritica (S. & H.), - - - - - - - fℨvj.
M.
Sig. Tablespoonful three times a day.

Trush.

℞ Sennine, - - - - - - - - - - ℥j.
Sacch. alb:, - - - - - - - - - ℥v.
M. F. pulv.
Sig. Apply to the affected parts.

Tapeworm.

℞ Pelletierine tannic, - - - - - - - gr.vij.
Syrup. simpl., - - - - - - - - ℨss.
M.
Sig. To be taken before breakfast. Half an hour later give
℞ Ol. ricini, - - - - - - - - - ℥j.
Ol. crotonis, - - - - - - - - - gtt.j.
M.

Vaginitis.

℞ Sennine, - - - - - - - - - - ℥ij.
Aq. dest.,
Glycerin, - - - - - - - - aa ℨij.
M.
Sig. Tablespoonful in a quart of water as a vaginal injection.

℞ Sennine,
Acid tannic, - - - - - - - - aa ℥j.
Butyr. cacaon, - - - - - - - - ℥v.
M. Ft. supposit. No. 10.
Sig. After freely syringing the vagina night and morning insert suppository.

Chancroid.

℞ Europhen,
Sennine, - - - - - - - - - - aa ℥ij.
M. F. pulv.
Sig. Dust on sore and cover with dry lint.

Winter Cough.

℞ Fl. extract of Chekan,
Maltine, - - - - - - - - - aa fℨj.
M.
Sig. Teaspoonful every three hours.

Alcoholic Intoxication

℞ Neurosine, - - - - - - - - - fℨij.
Sig. One to two teaspoonfuls.

Ovarian Neuralgia.

℞ Dioviburnia, - - - - - - - - fℨvj.
Codein. sulphuric., - - - - - - - gr.j.
M.
Sig. Teaspoonful three or four times a day.

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FROM THE AUTHOR OF NEW THERAPEUTICAL AGENTS.—I consider Sennine as an ideal antiseptic. It has no faults, chemical or therapeutical. In composition "a chemically pure product of boracic acid and phenol," it has the full properties of both drugs. It is not poisonous. It cannot irritate. It effectually destroys all germs. It has a lasting effect. It grows in favor. Can more be said?
Winfield, N. J., Dec. 30, 1893. W. H. MORSE, M.D.,
Chemist and Therapeutift.

SOUTH CANADIAN, I. T., Jan. 5, 1894.
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GENTLEMEN—According to promise it is with pleasure that I to-day inform you of the results of your excellent preparations, viz., "Dioviburnia and Neurosine." I not only thoroughly tested the trial bottles you kindly sent me, but it having given me such good satisfaction I have ordered several bottles from our wholesale druggist, and must say that they have never disappointed me once, and in conclusion will say that it is everything and (if possible) more than you claim for it. In all cases where they are indicated they have been quite a boon to me and my patients and I do not intend being without them as long as I practice medicine. Wishing you success in your preparations, I am,
W. H. MURPHY, M.D.,
General Manager Eureka Drug Company.

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ORIGINAL ARTICLES

Membranous Croup.

BY WM. A. DICKEY, A B., M.D., TIFFIN, OHIO,

Professor of the Principles and Practice of Medicine and Clinical Medicine in the Toledo Medical College.

Read before the Northwestern Ohio Medical Association, Toledo, Ohio, December, 1893.

The practical importance of the disease which forms the title of this paper shall be my apology for presenting one so trite and somewhat hackneyed; then, too, the season of the year when the greatest number of cases are seen adds renewed interest to its consideration and discussion.

With that class of cases caused by the inhaling of super-heated steam, the swallowing of irritant liquids, as well as the spasmodic variety, this paper shall have nothing to do. Nor shall I speak of occasional secondary exudations in this region sometimes seen to follow measles, whooping-cough and diseases of a kindred character, but will confine myself exclusively to idiopathic inflammation of the larynx and trachea.

To Home, of Edinburgh, writing about the middle of the eighteenth century, we are indebted for the first and most accurate description of membranous croup as a distinct disease. The observations of this close and critical observer were confirmed by Cheyne in the beginning of the present century and remaining indisputed until Bretanneau claimed the identity of the disease with diphtheria. Since that time the subject has been considered worthy of the careful study and thoughtful consideration of some of the eminent pathologists and teachers of this country and Europe.

As the clinical phenomena exhibited by this disease and diphtheria were carefully noted and closely studied, as well as the pathological changes revealed by the microscope, the profession has been divided into two classes, the one arrayed in solid phalanx against the other, viz., those who believe in the unity and those who believe in the duality of the diseases. To my mind croup and diphtheria from whatever standpoint viewed, are essentially diverse—the points of differential diagnosis you are all familiar with and I will only mention a few of the more important ones, the reasons for which will be apparent further on. The first, and one which I regard as very practical, is the direction in which the membrane spreads in the two maladies: that of diphtheria spreading upward, beginning with a very small area, usually the tonsils, finally reaching the nostrils and when death ensues, dying from systemic infection; while in the other it passes downward invading the trachea and bronchi gradually growing thicker with each passing hour until the patient dies from asphyxia unless arrested by felecitious treatment. In croup the false membrane is *upon* and does not reach down into the mucous membrane and submucosa, and when removed (which can be easily done) does not leave a raw, bleeding surface as in the latter, nor has the Klebs-Loeffler bacillus even been found in croup; for this reason croup is not contagious while diphtheria is. Here it may be said, parenthetically, that the question of the identity or non-identity of the two diseases assumes serious proportions when the question of prophylaxis is considered. Again I have never been able, after the most painstaking examination, to find a single case in which albumen was not present in the urine of a patient suffering from diphtheria, while it is not found in those who have croup. Other points of difference will at once suggest themselves to each of you; but these are sufficient for my purpose. I have said the Klebs-Loeffler bacillus has never been found in croup. A bacillus similar, morphologically, to the Loeffler germ *may* be found, but it will not produce the ptomaines that are the result of that bacillus. In a recent report to the New York City Health Department the chief inspector of contagious diseases, Dr. Biggs, examined thirty six reported cases of membranous croup. The exudate in these cases was limited to the larynx, or when extending into the pharynx was only slightly so. In thirty of the thirty six cases the Loeffler germ was found. Judging from the report alone we would infer that thirty of the reported cases were diphtheria, while only six were croup, and that the germ associated with the former was pathogenic; and yet as I have indicated a bacillus in all respects like the diphtheritic germ except as noted) has been found in membranous exudates in the fauces. One of two things is quite certain, either that our New York brother makes as many or more mistakes in diag-

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nosis as his fellow practitioner in the "wild and wooly West," or that all exudations in this region should be regarded as diphtheritic and the patient completely quarantined.

Our treatment of the disease will be modified to suit preconceived ideas of the cause and of the pathological changes taken place. However, bearing in mind the fact that the formation of the membrane within the larynx lessens by that much its caliber, preventing thereby the ingress of air, treatment will be directed, first, to limit as far as possible the formation of the exudate; second, its dissolution and expulsion; third, to allay the spasmodic action of the larynx; and fourth, to sustain the vital forces of the patient.

To fulfill the first of these indications, we have no specific, else no children would die of croup. Many remedies have been brought to the notice of the profession and for a time much lauded only to fall into disuse. Unfortunately for the little sufferer the physician is not called, as a rule, until there has been formed more or less of this pseudo-membrane and as a result the breathing is labored and difficult. But whether called late or early, it is my custom to administer an emetic of turpeth mineral of from three to five grains. This will provoke prompt and free emesis with much relief to the embarrassed respiration; nor do I hesitate to administer it at any time throughout the disease when the breathing bocomes labored and difficult. The late Dr. Fordice Barker claims never to have lost a case when this remedy was administered early. To those who believe that croup and diphtheria are identical this will be considered vicious treatment and will receive severe criticism. Certainly no one would believe it the part of wisdom to administer an emetic as an initial measure in diphtheria and if he did no such relief would follow its administration, for the reason that until a certain amount of necrosis or breaking down of the exudate has taken place between it and the mucous membrane no dislodgment can be affected. Turpeth mineral is probably the least depressing of all the agents of its class and this commends it to our favorable consideration.

Recalling the fact that the stage of actual inflammation is preceded by one of congestion, cold would suggest itself as a very rational and trustworthy therapeutic agent; nor are its remedial virtues in the least degree lessened if the stage of inflammation has been reached. The larynx being superficial its beneficial affects are soon seen and felt. Pounded ice in a rubber bag or bladder applied in the region indicated is far preferable to cloths wrung from cold water, because of the variation in temperature of the latter and the constant wetting of the patient's clothes. The earlier and more thoroughly this is applied the more happy the results. If the patient is thirsty bits of ice may be swallowed. This not only allays thirst but lessens the inflammation and edema. I prefer the cold applications to hot for the reason that the latter cannot be maintained at a high temperature for any considerable length of time, which they must be to be beneficial. As to remedies internally, "many have been called, but few chosen." From the glowing accounts that come to us from certain quarters concerning calomel we were led to expect much from its use. The writer has given it in large doses and small doses, at long intervals and short ones, continuously and interruptedly and yet frankness compels me to say I have never seen any beneficial results from its use. In saying this I know it is much at variance with the experience and judgment of many able practitioners. If the bowels are at all constipated a sufficient amount is given to move them freely and then the remedy is suspended. Quinine is the agent that seemed to me to have the most beneficial affects, restraining the formation of the exudate, lessening the attacks of dyspnea that are prone to come on with the approach of evening; coincident with this, was a lengthening of the remissions occurring during the morning hours. To be at all affective the patient *must be thoroughly cinchonized and kept so;* nor do I trust to pills or capsules. These are often old, dry and hard, and as a result difficult to dissolve and sometimes not dissolved at all, passing through the alimentary canal unchanged. It should be given in powder, using licorice, yerba santa or milk as a vehicle mixed at the time of administration. To a child three years old, two or three grains should be given every two hours. At the same time the quinine is being given small doses of hydrate of chloral in conjunction with the tincture of belladonna should be administered. One grain of chloral hydrate, with five to ten drops of tincture of belladonna given once in three hours until four or five doses are taken, when the mixture is to be suspended until further orders from the attending physician. It is surprising what large doses of the latter drug these little sufferers will bear and it should be given to its full physiological affect. These remedies have been found to be of value as would be readily inferred from their well-known physiological action. Quinine depresses the circulation and retards the migration of the white blood cells. Chloral lowers the temperature lessens arterial tension and the fibrin of the blood is made less coagulable. Chloral too is one of the best antiseptics we have and is a local sedative and astringent. It should be given in glycerin which adds to its efficacy. Belladonna has an almost elective action on the mucous membrane of the air passages in general, while its stimulating influence on the nerve centers fortifies them against the depressing affects of the disease.

Objection may be urged against the chloral on the ground that it will add to the coma which is so often present in these cases. At first thought the objection would seem to be well founded; but I think upon deliberate reflection it will be more apparent than real. The soporific condition is caused by a lack of proper amount of oxygen in the blood and a consequent increase in the amount of carbon dioxide. Now this condition of affairs, in a very large per cent of cases, is brought about by a spasmodic action of the glotis by

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which the air is prevented from reaching the lungs. The chloral allays this and the respirations are made easier, freer and deeper; then, too, the entire nervous system is calmed, placing the patient in a more favora ble condition.

The dissolving of the pseudo-membrane, when it can be done at all, must be done by remedies applied topically and the only practical and at all satisfactory way of accomplishing this is by means of vapor or spray. The spray is one most frequently resorted to. Our instrument makers have contrived many ingenious atomizers, some are good, many worthless. Unfortunately the best of them cannot always be used to advantage, and sometimes not at all. Numerous solvents have been recommended from time to time; of these I shall speak of but a few. At the head of the list I place peroxide of hydrogen. I know of nothing that will so surely and effectually dissolve the exudate as this. It can be used full strength or diluted, as the concrete case may demand. It is tasteless, practically, and my observation is that it is not in the least degree irritating. In those cases in which the membrane invades the pharynx the juice of the pineapple is highly spoken of by those who have used it. The pineapply may be cut in small, thin slices and the patient be allowed to eat it in this way and as much of it as he can be induced to use. It is said to act best in those cases in which the membrane is thick and leathery. Trypsin in conjunction with bicarbonate of soda in a hot spray is also warmly spoken of. Bicarbonate of soda and lactic acid rather from a negative than a positive standpoint. Between the two I have no preference, as I am unable to see any difference in their action, if action they have. Indeed, in a large proportion of cases I am skeptical as to their utility. When we study the anatomy and phy siology of the parts involved and the location of the exudate it requires an immense amount of faith to believe that a sufficient quantity of the medicated spray can reach the membrane to dissolve much, if any of it. I am satisfied that the only good derived from their use is not from the drugs, *per se*, but from the hot spray which carries them. This is beneficial on account of the warmth and moisture which diminishes the swelling and lessens the reflex irritability.

The slacking of lime with the patient under a canopy is a favorite plan with many and often resorted to; but I entertain the same opinion of this as of the medicated spray. Yet, doubtless, it will always be used for the exceedingly logical reason that we are told to do so in all standard text-books. Keeping the air of the apartment in which the little sufferer is confined thoroughly saturated with moisture will be just as beneficial, but to derive any benefit it must be kept in this condition. A tin cup of water on a stove in one end of a room with the patient in the other has always seemed to me farcial and, yet, this is often witnessed.

At the outset, I recommended the administration o an emetic of turpeth mineral, not only at the commencement of the disease but at any time during its continuance. In this way much of the membrane is mechanically thrown off, allowing an ingress of air and the consequent liberation of carbonic acid. I have witnessed the most gratifying and permanent results from its use; those in whom the respirations were labored and difficult, finger tips and lips blue, and who were decidedly drowsy, all passed away after its use. In but one instance did it produce any unpleasant symptoms and that was in a case not seen until the sensibilities were so obtunded from carbonic acid narcosis that it did not bring on prompt emesis but resulted in enterocolitis, the patient dying from asphyxia in a few hours.

During the last stage of the malady the most decided stimulation is necessary to keep up the exhausted nerve centers. Whiskey, camphor and caffeine will head the list. Throughout the entire course of the disease the medical treatment should be supplemented by the administration of concentrated, easily digested food. Milk, warm or cold, as may suit the taste of the patient, predigested or not, as the judgment of the physician may dictate. When it is thought best to do the latter the following simple plan will be found serviceable. To a tumblerful of milk, take, say two grains of pancreatine and eight or ten grains of bicarbonate of soda and dissolve them in two tablepoonsful of water; this is to be added to the milk at the time it is taken. Beef extract, mutton broth, and the like will prove good substitutes.

To summarize briefly the medical treatment of croup that will give the little victim the best chance of recovery is as follows: A warm room, the air of which is to be saturated with moisture; an emetic of turpeth mineral *to be repeated whenever the respiration becomes embarrassed;* if the bowels are constipated, a sufficient amount of mild chloride of mercury to move them thoroughly; ice to the throat, either in a rubber bag or bladder; if thirst exists, pellets of ice internally; quinine *to decided cinchonism, which is to be maintained;* a sufficient amount of hydrate of chloral to allay spasms of the air passages, with decided doses of belladonna; the inhalation of steam medicated or not as may suit the peculiar belief of the individual practitioner; the juice of the pineapple, trypsin with carbonate of soda in warm water; to be supplemented by the administration of a suitable amount of easily digested food.

Doubtless this paper would be incomplete without some reference being made to intubation and tracheotomy. Each of these operations has its advocates. Statistics prove that the former saves, practically, forty per cent of cases while the latter saves thirty five. Others say forty-five for the one and thirty-nine for the other. The tronble with tracheotomy is, that in private practice it is difficult to obtain the consent of the parents to the operation until it is too late to be of any avail and sometimes it cannot be had at all.

Its success depends upon three factors named in the order of their importance, (*a*) the time at which the operation is made; (*b*) the patient's case and surround ings; (*c*), the skill of the operator.

Notwithstanding all we can do both medically and

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surgically we are often utterly powerless in the presence of the disease, and the home that is entered by croup, death will too often cast its dark and forbidding shadow over its hearth stone and some of the saddest memories are those connected with this disease.

Uric Acid.

BY CLEM D. M'COY, A.M., M.D., KENTON, OHIO.

Read before the Northwestern Ohio Medical Association, Toledo, Ohio, December, 1893.

GENTLEMEN.—I have not chosen my subject because I have either favorite theory to propound or startling discovery to reveal. I have chosen it because, when our worthy President notified me that the Northwestern expected me to do my share of work at this meeting, I was wandering around in its maizes perplexed but rather fascinated. Therefore I thought it would also interest others.

The uric acid of the chemical laboratory is a clear crystal but as the physician finds it from the human laboratory it is of a decided yellowish cast from urinary pigment. Its crystals are of rhombic design or having two sides smooth and parallel and two rough and jagged. In size they vary with the time of deposition from scarcely visible in a one inch objective to filling the entire field of a $^1/_{16}$. They are in time precipitated, in any acid urine but the process can be much hastened by hydrochloric or acetic acid. Chemically it is recognized by the murexid test—add HNO_3 to the dried sediment of an acid urine, dry by heat and there is a red residue; ammonia added produces a purple, deepened by solution o potash. Its formula is $H_2 C_5 H_2 N_4 O_3$ but, what is of more importance to us, its acid radical is bibasic.

Therefore we will find it forming two series of salts according as one or both its atoms of hydrogen are replaced by one or two atoms of base. One of these in which the acid radical predominates will be of acid reaction and is therefore the acid urate or biurate. The other in whic radical and base counterbalance is neutral in reaction and is therefor the neutral urate or simply urate. And as usual one is a stable compound and the other prone to change.

Besides these two regular salts it is tolerably certain there exists a third. In this third series a molecule of biurate is in loose combination with an extra molecule of uric acid and is therefor a quadriurate. This series is demonstrated by the decomposition of the amorphous urates sediment into biurate and an excess of uric acid equivalent in amount to that required by the salt. Numerous experiments authorize the following conclusions as to the forms under which uric acid occurs within the body.

1. Free uric acid does not occur physiologically. Pathologically found as gravel, calculi and crystalline urinary sediment.

2. Neutral urates do not occur either in health or disease.

3. Biurates do not occur physiologically. Known in urine only after ammoniacal fermentation. The biurate of sodium largely forms the chalk deposite of gout.

4. Quadri-urate, The form in which the acid occurs in normal urine. It is probable that it exists also in other body fluids and that many morbid phenomena arise from its secondary changes.

Uric acid, being sparingly soluble, is not suited for a nitrogenous eliminant in an organism having a fluid urine, however satisfactory it may be in the semi-solid urine of birds and serpents. Hence the mammalian function goes a step further and the insoluble uric acid is superseded by the freely soluble urea. So long as this process is complete and the kidney functionally competent all is well. But if either fail, somewhere will accumulate the harmful acid. Freshly voided normal urine holds the quadri-urates in clear solution, but upon standing they are thrown down as an amorphous powder which later developes biurates and acid crystals. That this does not occur within the body depends upon several inhibitory factors: 1. Temperature. 2. The presence of neutral potassic salts. 3. of pigments and 4. A low percentage of urates in solution. If precipitation occur within the kidney or bladder, we have manifestations of gravel or calculus. If more remotely, of gout or derangement of some organ where its presence as a foreign body or possibly as a toxine causes an overstimulation, an inflammation or a paralysis. This view discloses an array of symptoms at once both attractive and bewildering. Hence the advisability of keeping this possibility in mind when a case does not give some other reasonable and satisfactory account of itself. Disease of any organ or tissue may be not only simulated but produced by its continued presence in excess, and definite relief be gained only by its elimination.

For convenience, Dr. Fothergill divides into two general classes its manifestations as exhibited by what he calls the Arab or nenrotic type of man and the Norse or phlegmatic type. He finds the key to the tissues involved to be in their histological origin, *i.e.*, that the Arab suffers in tissues derived from the hypoblast and epiblast—in glandular organs and means of communication with our environments, that the Norseman suffers in tissues derived from the mesoblast, in locomotor apparatus, vascular system and connective tissue.

Of course, gout is the classical manifestation of uric acid in excess but clinically gout has some very suggestive relationships. Its alternation with eczema, herpes and bronchitis; its provocation by prolonged mental exertion: its association with rheumatism, nephritis, stone and gravel; while an enlarged left ventricle is a mechanical necessity from over-stimulated vasoconstrictors. That dyspepsia which we try so hard to cure may be the only protection a functionally deficient liver has against the taskmaster of the commissary, The old clergyman who was wont to exclaim "I have

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been a dyspeptic 50 years, thank God for it!" had a pretty keen eye to cause and effect as exhibited in some of his gouty parishioners although he may never have heard of uric acid. Sir Thomas Watson wrote: "Gouty persons are subject to various ailments, which spring from the same fountain as the well-marked paroxysm—derangements in the functions of the digestive organs, of the heart and lungs, of the brain and nerves." And later on he adds: "They often disappear upon the breaking out of a paroxysm of that disease in the foot." Or as Leroy Satterler, after describing a typical attack puts it: "We have many gouty diseases which are not gout and much gout appearing in the form of other diseases; and the terms regular, typical, normal, acute, true, irregular, anomalous, latent, chronic, atonic, internal, misplaced, atypical and suppressed gout give ample opportunity for disguising uncertainty in opinion by pseudo-scientific ambiguity."

But at what point does uric acid become in excess? The normal relationship between acid and urea is probably not far from 1 to 50. A ratio much at variance with this warrants suspicion. But the qualitative analyses to ascertain this ratio are scarcely practicable for general work. Personally I like this method—pour into a graduated test tube an ounce or so of urine, add 1% H Cl and set aside for six hours; siphon off ¾ of the supernatant fluid, shake up the remainder, place a drop upon a slide and examine. After a few normal examinations one will readily notice any marked variation in amount and size of uric crystals. This method is, of course, not very exact but it is easy and fairly useful through its positive evidence is more conclusive than its negative.

There is a temporary uric excess in itself a result and not a cause, occurring in most nutritive diseases, conditions of neurasthenia and anemia, tuberculosis, etc., which is of minor importance and demands attention rather as prophylaxis against evils ahead than as corrective of evils present.

Theoretically the treatment of lithemia is plainly indicated and the indications easily met; but, unfortunately, the consideration of the patient as an individual interferes with the treatment of his condition as a laboratory problem. But, since we know uric acid a form of nitrogenous elimination, we can lessen its production by a limitation of nitrogenous food ingestion to the actual systemic requirements. Tables showing the relative nitrogen percentages in various foods are in almost any textbook upon the subject and by them may be selected a mixed diet to suit.

Of drugs, the potassium and especially the lithium salts have been most extensively used and with generally favorable results. Some good observers, however, oppose their use on theoretical grounds and attribute their good results rather to the water in which they are usually given, but the popular seems also the more plausible theory. In my hands the carbonate and benzoate of lithium in 5 or 10 grain doses thrice daily in hot water have done very nicely. My high hopes formed for the salicylate have failed to materialize and I prefer the other safer and more easily born salts. A few days treatment seldom fails to show a favorable change in the urine and an alleviation of the irritation symptoms usually present. The natural alkaline waves accompanying digestive activity may then be trusted for the day time and 20 or 30 grains of the citrate of potassium will care for the urinary output during the hours of sleep. Considering the probability that liver function is faulty it is advisable to give also an hepatic stimulant and nothing is better for this purpose than the old combination of podophyllin, wahoo and calomel. Recently piperazin, a compound of ammonia and ethylene bromide, is eulogized but having had no experience with it I hope some who have will tell us of it. Colchicum is standard in acute gout but, being only palliative should not long be depended upon.

As soon as the fluids of the body precipitate their acid into the joints as urate of sodium the storm will clear up and treatment of the functionally incompetent or overworked liver should begin. If the liver be protected by a restricted diet and encouraged to a higher grade of work by a judicious use of drugs the patient's prospects for a modest but comfortable old age will be much improved.

In the excessive acid of diseases of nutrition small doses of arsenic are excellent. Here especially, examinations for amount of acid tell us much concerning the success or failure of our other treatment. If, after a couple of weeks' treatment, no diminution of uric output occurs, there is good cause to suspect either the interpretation or the final outcome. When our chemists furnish us, as they will surely do, with a simple and accurate method of quantitative uric acid analysis observations will multiply and this phase of the subject will yield some interesting secrets. More and more our indefatigable workers are studying function—its interruption, over-stimulation or perversion as the essential element in disease and the more complete our knowledge of the products and byproducts of the energies of this body of ours the more intelligently and successfully shall we detect and correct imperfection in any of its parts.

The Uric acid diathesis will not account for every ambiguous case but certainly the keeping it in view as a possibility has lessened my own number of these same ambiguous cases.

Vaccination Matinees in Paris.—Vaccination matinees have become quite the fashion in Paris. Persons belonging to fashionable society co-operate in arranging to have a doctor and a cow at an afternoon tea. The company are all vaccinated from the cow. In some of the large houses on the Champs Elysees, the cow is taken up in the elevator, and temporarily installed in the dining room. The cards issued bear the words: "*On vaccinera.*"

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EDITORIALS

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The Oral Cavity as a Source of Infection.

Although Nature has furnished the cavity of the mouth with a germicidal sectretion—mucus, the affections due to an infection from this cavity are no doubt quite numerous as every careful observer will attest. Inflammatory affections of the maxillary bones and of the submaxillary and cervical glands due to a carious tooth are to be observed in every day practice. But also infections of a more serious nature, involving the organs in the chest and abdomen, in fact any part of the body, are liable to occur in consequence of an insufficient attention to the oral cavity. Considering the frequency of inflammatory foci in the mouth it is a wonder that general infections referable to an unclean condition of the mouth, in consequence of carious teeth, etc., have not been observed more frequently. This is no doubt due partly to the difficulty of locating the primary focus and secondly, to the germicidal property of mucus. It is, we think, to a great extent in consequence of this property that wounds heal readily in the mouth and any infectious material will be made more or less innocuous by the presence of mucus. This property of mucus has also been demonstrated by bacteriological experiments, to which we have alluded in a former editorial of the REVIEW. In connection with this subject we recall a case, which occurred in our own practice and which we have reported at a meeting of the St. Louis Medical Society. A healthy, colored girl aged 19, from healthy family, had a carious tooth extracted by a dentist in consequence of which an acute periostitis and ostitis of the lower maxilla developed, which gradually became chronic. Two years later when we were called to see the patient the right half of the inferior maxillary bone was almost entirely destroyed by fungous granulations and had to be removed, also part of the soft parts covering it. The left elbow-joint presented a spindle-shaped tumefaction and upon trying to resect it the destruction of tissue was found to be so great that we had to amputate above the diseased focus. One ankle and knee joint were also affected so that we had to remove the external malleolus and the external condyle of the femur in order to remove all fungous granulations. Also the lungs and valves of the heart were affected and the patient succumbed about four years after the extraction of the tooth. In the granulations removed in the different operations we found tubercle bacilli and a great many single cocci and staphylococci showing that there had been a mixed infection; the improvement in general health was quite marked after the removal of the diseased foci. Similar experiences as this furnish a strong argument that dentists should operate with the same aseptic or, in some instances, antiseptic precautions as is done in other surgical operations. The necessity of a prompt attention to any pathological condition of the oral cavity as a hygienic measure seems to be so self-evident that it would almost appear as a superarrogation to draw attention to it, where it not for the fact that there are still quite a number of people who are greatly neglecting this precaution against a possible infection from the source under discussion. A valuable paper by E. L. Clifford, D.D.S., embodying recent researches upon the injurious products in the oral cavity to the general health, we take great pleasure in reproducing in the following article.

Infection from the Mouth.

E. L. Clifford, D.D.S, Chicago, writes in the *Journal of the American Medical Association*:

Each and every day brings the thoughtful student more and more to face the fact that the scientific world is progressing; and he who has kept au courant with the literature of medicine must acknowledge that the results of such investigations as are now being pursued have, for a principal object, the unfolding of the prime factors in the causation of diseases, with a view to their prevention.

Recent investigators have sought to open up new fields; they have tried, and found wanting, in many instances, the beaten track, and their efforts tend to the opening of new lines and a practical departure from the pathology of the past, with an ever increasing tendency to lead us to cultivrte and entertain broader, or

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at any rate less nrrrow views, as to the elements which play an importnnt part as etiologic factors in the causation and origin of diseases.

It is not necessary, or even advisable at this time, to recapitulate the theories of the past, and our aim will have been attained if we can take a few profitable glimpses at the newer fields, allowing the lines of thought and inquiry which may suggest themselves to each to furnish a basis for intelligent discussion.

Much has certainly been accomplished in the last two decades in the field of etiologic pathology, still much remains to be done, and upon the shoulders of some of the bright lights in our specialty, and this Section, will certainly fall a part of that task.

Investigation and experimentation in the past have been unable to specify and establish any single thing as a final cause of disease; and it has been said by one, eminent in our current literature, that he knew of no disease which acknowledged a single cause. Our work, then, if this be true, must be to search for and find out the many and ever varying factors or conditions which as antecedents, combine to produce disease; and I am of the opinion that to the physiologic agencies within our bodies during life we will find many competent factors.

The researches and expositions of Gautier, Peter, Brown and Brunton, confirm our belief in the poisoning or intoxication of the animal economy with its own products. These eminent physiologic chemists traced and pursued their investigations from two general aspects, and Aitken in his excellent review of their work has classified them under two heads: 1, from a chemic and physiologic, or bio-chemic standpoint; and 2, from a clinical or pathologic. From the first standpoint the fact was established that in dead animal tissues, processes of putrefactive decompositions set in, by which certain alkaloids are elaborated from the proteid substances, and these alkaloids were designated by the late Selmi of Bologna, as "ptomaines". Gautier, however, further showed that in the living animal tissues, and that by virtue of their vitality, certain other alkaloids are elaborated, which are analogous to the ptomaines and these he has named "leucomaines." But, still further, in addition to these facts, he has demonstrated that in the living animal economy there are elaborated certain azotized uncrystallizable substances which are as yet undetermined, and which he has called "extractives" or "extractive matters," and which Aitken states are quite as unknown as the x, y, z's of an algebraic formula.

The nature of these extractives, then, remains a mystery, but this much we are told of them; that while we are assured that the ptomaines are toxic, and that the leucomaines are also toxic, these unknown extractives are more toxic or poisonous to the system than either. Different alkaloids have been obtained from different sources, both animal and vegetable, and as long ago as 1820, Kerner pointed out the resemblance between the symptoms of poisoning by the animal and vegetable alkaloids. Experimentation since has confirmed the theory. "Zuelzer and Sonnenschein obtained, both from macerated dead bodies and from putrid meat infusions, small quantities of a crystallizable substance which exhibited the reactions of an alkaloid, and had a physiologic reaction like atropin, dilating the pupil. paralyzing the muscular fibers of the intestines and increasing the rapidity of the pulse." V. Anrep obtained an alkaloid from poisonous fish, and Vaughan an alkaloid frhm poisonous cheese, but "Gautier, Etard, Brieger and others have given precision to the data previously acquired, and added largely to the varied and careful examinations of cadaveric tissues"; "they forced the conclusion that during putrefaction of nitrogenous animal material there are formed organic bases, fixed or volatile, presenting for their chemic and physiologic properties, the closest similitude to the vegetable alkaloids."

In fact, while it was at first supposed that these animal alkaloids differed in their nature from the organic alkaloids formed by vegetables, and various reactions had been given to distinguish them, Brieger appears to show that the distinction can be maintained no longer; but that the animal and the vegetable alkaloids are similar in their chemic constitution; that they are both products of albuminous proteid decompositions, and that some, at least, of the so-called ptomaines are identical with vegetable alkaloids. Hence, Dr. Brunton seems justified in regarding alkaloids "as products of a albuminous decomposition, whether their albuminous precursor be contained in the cells of plants and altered during the process of growth, or whether the albuminous substances undergo decomposition outside or inside the animal body, or by processes of digestion, as by organized ferments." Aitken also states that it has been shown that the alkaloidal products formed by the putrefaction of albuminous substances vary according to the stage of decay at which they are produced. At first, the poisonous action of the ptomaines may be slight; but as decomposition advances the poisons become more virulent, while after a still longer period they become more broken up and lose to a greater extent their poisonous power. (Brunton.)

"In addition to these alkaloids abtained by Brieger, a number of poisons have been got by other workers from decomposing articles of food, or from dead bodies, and even from portions of healthy animal bodies, and although these may not have been obtained in the same state of purity, not have had their chemic constituents so well defined as Brieger's, they are still as unknown extractives, x, y, z's of great interest and importance".

Experimentation has even shown that the primary products of albuminous decomposition of digestive ferments, such as peptones, are poisonous; and that pepsin will split up albuminous substances still further; and Dr. Brunton very aptly sounds the tocsin of caution against the extreme and indiscriminate use of the various digestive ferments, and of the many varied artificially digested foods which have now become common.

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Consequently it behooves us to study the products of albuminous decompositions as a matter of much practical importance, not only as regards pathology, but as regards therapeutics. Now it would not be possible to exclude these animal alkaloids from the general economy, for Gautier has proven that they are a necessary product of vital physiologic processes. His experiments show "that about four-fifths of our disassimilations are the result of transformations within the body, comparable to the oxidation of alcohol; and that the remaining one-fifth of the disassimilations are formed at the expense of the living tissues themselves, "free of all demands on foreign oxygen". In other words, "a fifth part of our tissues live after the manner of ferments, that is they are anerobious or putrefactive as to their life". Hence the possibility of alkaloids being thus formed within the living organism, independent of bacterial fermentation is quite within our conception".

Bio-chemically, the same author states that much has been proved, and he does not doubt that poisonous alkaloids are continuously formed in healthy men and animals by the decomposition of albumen in the intestinal canal, during the process of digestion, or in the blood and tissues generally by the metabolism which occurs during the functional activities of life. He believes that a considerable production of alkaloids takes place in the intestines, both when the digestive processes are normal, and more especially when they are disordered. Were all the alkaloids to remain within the body, poisoning would undoubtedly ensue, and Bouchard makes the statement that the alkaloids formed in the intestines of a healthy man in twenty-four hours would be sufficient to kill him if they were all absorbed and secretion stopped. Another statement, made by the same author, tends to show the power of these agents as an etiologic factor, and which at this time will probably not be questioned: "That the nervous disturbance which occurs in cases of dyspepsia is due to poisoning by ptomaines"; "that they augment notably in the course of certain maladies,—in typhoid fever for instance".

Now, as to the clinical, pathological and practical aspects,—according to the different sources of poisoning, or intoxication, as it is technically called, there are correspondingly different indications, signs or symptoms which Dr. Brown classifies as follows:

1. Poisoning by the extractives is attended by *hyper*-thermia.

2. Poisoning by "animal alkaloids" is accompanied by *hypo*thermia.

3. A combination or succession of *hyper*thermic and *hypo*thermic phenomena may become manifest, according to the combination or alternation of poisoning by the deleterious physiologic products, or their antagonistic action.

Some contradictory evidences of the above are accounted for as follows: "Where 'extractive matters' accumulate in the blood we detect hyperthermia; on the other hand, if 'alkaloids' accumulate, we have hypothermia, while if the two factors coxist, they may neutralize each other, or become antagonistic in their action, so that temperature may remain stationary or normal. But should one or the other predominate, immediately the scale is turned, so that some variation may by noted. In this auto infection, this spontaneous or self infection, of the living organism by the alkaloids and extractives of its own formation there is no question of quality, but simply one of quantity to be considered, by reason of the essential physiologic source and action of the poison. In other words, the healthy living organism may become poisoned (more or less slowly) by the accumulation within itself of deleterious substances normally elaborated, but imperfectly or defectively eliminated. Hence the slow and insidious onset of much ill-health, and from which recovery is correspondingly slow." Now, in what way does this auto-infection of the system take place? Brown tells us that it can only be understood and explained by the mode in which we regard the phenomena of life. Life is a ceaseless decay with a ceaseless repair. "Normal health is conditioned on an incessant formation, transformation and elimination of the effete or old organic materials which must give place to new. It is this effete material, which therefore, repesents a series of partial deaths, and which, as the result of organic functional operations, constitutes life, during which the tissues and organs in the processes of their metabolic changes perform a constant function of disintegration, fabricating during these processes those alkaloids and extractives, those x, y, z's of pathology which must be regarded as veritable "physiologic ashes," (Brunton) resulting from the processes of combustion of the elements of organic tissues."

Having progressed thus far, and established the fact, we think, of the presence and power of those poisonous agents, let us for a while cast a glance at the oral cavity of man, and see if any conclusions can be drawn as to the part it plays in promoting or preventing the formation of these factors in the causation of disease.

1. We will claim that no portion of the organism is of more importance, or is more active as a veritable chemic laboratory, than the mouth. It is established, that in the processes of putrefactive decomposition, certain alkaloids are elaborated from the proteid substances. We all know that in the cleanest mouths certain portions of these proteid substances will remain, as they are ingested with the food we take, as well as the water we drink, and the air we breathe. We know also that in the cleanest and healthiest mouths, absence of bacteriologic influences is but an utter impossibility, and that these microorganic agencies, furnished as they are with the proper media or food, conjoined with a suitable temperature and abundant moisture, make the mouth one of the best incubators that can be imagined. If this be so in mouths that have been no strangers to proper hygienic influences, how much more strongly is the fact established of the influence of this territory, when carelessness and neglect have been a predominant

feature? And, if we accept the theory of Aitken that these alkaloidal products vary as to their poisoning power according to the stage of decay at which they are produced, how important is it that these hygienic influences be enjoined and enforced. Then again, accepting the dictum of Gautier, that these animal alkaloids can not be excluded from the general economy, and that they are even necessary as a product of vital physiologic processes, it certainly becomes the duty of that branch of medical science to which the very entrance of the digestive tract is allotted for control and treatment, to see to it that contaminating influences are eliminated. Again, if the possibility of the formation of these animal alkaloids is acknowledged without the aid of bacteriologic fermentation, as shown by Gautier, how much more deleterious must be their effects, and how much greater must be their production when conjoined to and assisted by these physiologic agencies. If an abnormal amount of these poisonous substances are produced within the intestines when in any way disordered, how much more reasonable to conceive that the manufacturing capacity of the mouth is greatly increased, when a condition that might be termed absolute filth is no stranger to the eye of the observant dental practitioner. If the amount of these agencies formed in the intestines of a healthy man in twenty-four hours is sufficient to kill him if absorbed and secretion stopped, it will require no great stretch of your imagination to realize that enough poison could be taken from the mouth of the average dental patient to kill a small army of inoculated subjects if properly applied. Let the physician who doubts this statement recall the condition of wounds, and ponder over the difficulties of his prognosis when called to attend a traumatism caused by the human bite. The conclusions of Dr. Brunton will also go far to account for the thermal changes which take place and accompay these traumatisms, when viewed from a clinical or pathological standpoint Miller establishes well the part played by the human mouth as a generator of microoganic life, and his testimony is corroborated by other investigators; not only are large quantities of the animal alkaloids produced within the intestines and other portions of the alimentary tract, but large quantities are swallowed with innumerable bacteria which have already been produced in the mouth, and, as stated by Miller, they give rise to local and general disorders of the most serious nature, produced partly by the direct action of the microorganisms, and their products upon the teeth and the mucous membrane of the mouth, partly by swallowing large portions of bacteria, partly by carring them into the lungs, particularly in cases of violent inspiration and finally by their obtaining an entrance into the blood or lymph vessels in various ways, such as by a breach in the continuity of the mucous membrane brough about by mechanical injuries (wounds, extractions, etc.) through the medium of gangrenous tooth pulps, which usually ead to abscess at the point of infection; sometimes with secondary septicemia and pyemia with fatal termination by resorption of poisonous waste products formed by bacteria; by the inspiration of particles of slime, small pieces of tartar, etc., containing bacteria, and by contact with the oral and pharyngeal cavities, whose power of resistance has been impaired by debilitating diseases, mechanical injuries, etc.

The very antechamber of man's vegetative existence, the very portal of the human body, furnishing as it does a most excellent nursery for these etiologic factors, has not received from the general profession of medicine, within the past, that attention which its importance has deserved; but, thanks to the work and investigations of some of the members of our specialty, the physician can no longer ignore these factors and feel that he has done justice to himself and the patients who has so confidently placed himself under his care. The results of the last few years have proved that is many of the diseases whose origin is enveloped in mystery could be traced to their source, they could be found to have orignated within the oral cavity. And, as to the danger of such diseases as do follow from infection traced directly to the mouth, it seems there could be but one thought, when we reffect that out of a carefully prepared table of 149 cases by Miller, there resulted 50 deaths, 19 cases of syphilis, 2 cases of blindness and 2 cases of a loss of a part or the whole of one of the maxilla.

Most of the work which has been done up to this time (with the exception of that by Miller) has been with a view of attracting the attention of the dental specialist to infection which has been carried *into* the mouth from without resulting in local manifestations which would naturally come under the supervision and treatment of the dentist. Miller has opened up, and is cultivating with skill and determination a new field of research, and it seems to be his object, as it is mine at this time, to attract the attention of the general practitioner to infections which are carried *from* the mouth and are planted in such soils as will prove favorable to their future germination and growth, hence, proving an obstacle in the path of him who would assume to treat these pathological lesions, without due appreciation of the important part these agencies and this location play as factors in etiology. It would not be difficult to convince the observent dentist of the truths here implied; it would only be necessary, were that our object, to ask him to recall from his every-day experience ample facts to substantiate the position. He has seen many times the general health of his patients vastly improved by a proper care and attention of the mouth. He has studied, as a specialist, the chemic powers of decayed teeth, vitiated and poisoned secretions and fully appreciates their power and influence, but I am forced to the belief that the physician of the past has either wilfully or ignorantly ignored the important part this portal plays in the aggravation of diseases, or as a preventive of cure. And this thought is only enhanced and enlarged by the recent practices of the more observant and faithful, in calling to their assistance the aid of the

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competent orist, in assisting him to reestablish physiologic perfection.

To make the attempt to enumerate and to classify the different ailments which are either caused or aggravated by the unhealthy and unwholesome condition of the mouth, would be too great a task for one paper, if it were necessary, but it is not. Miller has done and is doing this work for us, and it is our province to assist as much as possible in bringing to the notice of the profession the excellence of his work and the importance of his conclusions. At such times as this, we can but generalize. Every physician of experience has often, no doubt, found himself in the dilemma of not being able to account for the cause of many cases in practice—and while I would not have him look to the mouth as the harbinger of all these causes, I would ask his attention to that sphere, as a possible, and I might say, a probable source in many cases.

There is no doubt that the nervous system in many instances, and by very remote manifestations, is often injured to an alarming extent by the mechanical or chemical irritation emanating from an oral organ. The alimentary tract, we know, is often deprived of the privilege of doing its proper duty by contaminations implanted into the first bolus of food, started on its course through a filthy and poisonous mouth, and added to the chemic contamination may well be mentioned the mechanical, which in cases of malocclusion, tender and sore teeth, or edentulous mouths prevent a proper mastication of food, entailing upon the stomach an office and a duty never designed by Nature. This overwork of the stomach, combined as it often is with the chemic poisons of the diseased mouth, of course is sufficient to interrupt the proper function of other organs in the tract as they are reached, and consequently the whole canal becomes a source of irritation and of poison. Now, the primary source of health and growth being so far down from the path of rectitude laid out to furnish man with ease and not disease, it is evident that future digestion, assimilation and nutrition is only a matter of impossibility. If the ptomaines, leucomaines and extractives are found in every organism, and under all conditions, it is only rational to believe that an all-wise Providence has designed them for a specific and for a physiologic purpose. They have a function to perform, even though it were only that of scavengers for other tissues. It would certainly not be wise to place a minor importance upon the function of the kidneys, simply because their principal office seems to be that of eliminators,—on the contrary, the more reason why their integrity should be preserved and their powers not deteriorated, in order that those substances which seek this channel may be thrown off and not left to accumulate, to contaminate and to poison what would remain healthy.

Likewise, if micro-organisms are so universally present, the same facts would equally apply to them, and it is to the prevention of a growth of an abnormal quantity, and to the prevention of the introduction into the organism of specific germs, that the attention of the therapist of the future will be more particularly directed. If we could only get our medical confreres to pay more attention to the chairs of oral and dental pathology that have lately been introduced into our colleges, to the sections on these subjects that have been attached to all the congresses and national associations of late years, we believe they would fully appreciate their importance, would more often seek the advice and assistance of the specialist, and this in turn would create a bond of union between us and them, stronger and more appreciated than any that has existed up to this time.

Aside from local inoculations and their results, which are usually classed among dental diseases, there are many forms of aberations that the condition of the mouth may be held especially responsible for. Paralyses, pareses, anesthesias and hyperesthesias adorn the border line where it is difficult to determine whether the case is one for the specialist or the general practitioner; but these lesions having long been noticed as doubtful in their etiology, are not classed among the obscure, and are often brought to the notice of the specialist and his assistance sought. But in those more obscure cases where the cause is greatly clouded, mistakes are more liable to occur, and the physician often battles vainly in his efforts to restore a healthy status by the ever interfering and constantly infecting products of this portal to man's existence. Miller has shown that pulmonary and bronchial diseases are excited or aggravated by the inspiration of germs from the oral cavity, as evidenced in the cases cited of J. Israel, where primary actino-mycotic infection followed the lodgment of a small piece of tartar within the lung. Several cases within my own practice confirmed the theory, and I have more than once seen the benefit, and been able to bring it forcibly to the notice of the attending physician, where marked improvement followed the sterilization of the mouth, when all efforts had proved fruitless prior to this step. Alimentary disorders are of such common occurrence, as a result of defective and contaminating mastication as to require no extended notice, and from this one condition all other organs are more or less affected, both nervous and vascular. Bednar, said to be the first to give clear expression to this view in 1854, states that, "indigestion may be brought about directly, by taking into the stomach any substance already in a state of fermentation; indirectly, when the food taken into the stomach undergoes subsequent fermentation on account of its disproportion of the gastric juices." Henoch favored this conception and found in it a cause for a large number of diarrheas, while Minkowski classifies under five heads the disturbances directly caused by the fermentative processes in the stomach:

1. Substances may be formed which irritate the mucous membrane of the stomach, and bring about a state of catarrhal inflammation.

2. Considerable quantities of gas may be found heightening the mechanical insufficiency of the stomach.

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3. Fermentations may lead to the production of substances having toxic properties.

4. In the fermentation of albuminous substances, alkaline products may arise which neutralize the gastric juice.

5. The gastric fermentations may exert a great influence on the functions of the intestines.

And now, what is our lesson? We would ask the general practitioner to regard the unhealthy condition of the oral cavity, with all its contents, as an important factor in the causation or aggravation of diseases having shown, as we believe, that within its boundaries lie the primary causes of many pathologic lesions; that good, healthy, clean and serviceable dental organs are absolutely essential to the enjoyment of physiologic ease, and that in many cases the dental specialist has within his power the rendering of valuable assistance in the search for this result.

A Four Years' Course in Seventy-one Medical Colleges.—It is proposed that the Association of American Medical Colleges adopt a rule enforcing a four years' course upon all medical students who intend to graduate in 1899 or subsequent years. The Association now embraces seventy-one colleges.

Professor W. D. Outten, of St. Louis, Visits New York.—Chief Dr. W. D. Outten of the Missouri Pacific, with Prof. Fulton of Kansas City and Dr. Perkins, spent last week in New York, visiting the various hospitals, and attending to business matters. Wednesday evening the party were the guests of Hon. Clark Bell, Thursday evening they were entertained by Vice-President of the National Association of Railway Surgeons, Dr. Thomas H. Manley, and, they wound up the week, by a royal reception and a grand dinner, Saturday night at the residence of Dr. Matthew D. Field, the chief surgeon of the Manhattan Elevated Railway System of New York.

Higher Medical Education.—In pursuance of the policy recently announced in the resolution to be presented to the American Medical College Association, the trustees and faculty of the Rush Medical College have decided to require four years' attendance at college from students who began the study of medicine this year with a view to graduation in 1898; however, those who have already studied medicine one year or more with a preceptor, so that the four years of study, already required, will be completed before July, 1897, may graduate after three courses of lectures as heretofore. To encourage proper preliminary study, graduates in Arts and Sciences from high-grade colleges, and graduates in Pharmacy and Dentistry from colleges requiring a proper amount of study and two full courses of lectures will until further notice, be allowed to graduate after an attendance on only three courses of lectures.

ABSTRACTS

SURGERY.

A Case of Pons-Tumor.—Kolisch of Vienna, in *Wiener Klin. Woch.*, says:

Tubercle in pons varolii between the frontal planes of the corpus quadrig. post. and the tuberculum acustic, mainly on the right side. Associated paralysis of trochlea; tic in the left facial region; left-sided hemiataxia, left-sided central acusticus affection; pains in the left side of the body; vertigo; vomiting.

The author describes a case indicating these symptoms. The examination of mobility in this case showed the following defects: The lateral excursion of the bulbi in co-ordinate movement are highly restricted; the lifting is curtailed but little; the lowering of the vision-plane is hardly restricted at all; the movement of convergence is perfectly retained, though rather laborious. There is a constant winking of the eyes, especially on the left side. No infiltration of the optic nerve in the back-ground. Moderate paresis of the two lower branches of the left facialis, especially in active movements.

Sensibility in the region of the left trigeminus dulled. Patient is constantly subject to vertigo, even with closed eyes and, when recumbent, it becomes very manifest while he changes the position of his body. Painful paresthesia in the left side becoming very intense and, together with headache, constituting the patient's chief complaint.

The diagnosis of cerebral tubercle was strengthened by the existence of obvious tumor symptoms (such as the characteristic vomiting and headache, tuberculosis and glandular affection). The relatively defined localization pointed also to a tubercle. Localization was easy in this case owing to the marked focus symptoms. A pre eminently half-sided lesion of the pons was assumed. The reason for assuming an injury of the right sided region of the tegmentum in the proximal part of the pons resulted from the one-sided ataxia and the exquisite disturbance of the lateral excursions of the bulbi. The clearly pronounced vertigo (in spite of the absence of general pressure symptoms) and the occipital pain pointed also to a localization in the posterior cranial fossa.

The hemiataxia suggested lesion of the right half of pons. The upward limit was determined by the freedom of the convergence-movement of the bulbi and of the reaction of the pupillæ. The further progress of the disease confirmed the diagnosis. The most striking subjective symptom during the entire process of the disease was pain, both headache and painful dragging and tearing in the entire left side of the body. Exudation ad basim operatviely removed, but the thorax filling

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again; fever; decubitus; strong dyspnea; exitus. Autopsy showed an oval roof of the skull, of medium size and ordinary thickness. Dura mater strongly distended, smooth at its inner surface. The soft cerebral membranes pale at the convexity, serously imbibed; corvolutions soft and flattened. Pons strongly dilated, also somewhat lengthened. The right nerv. abductens enormously thinned, flattened; the left less so. The right pedunculus rather swollen. The nervi trigemini, facialis, and acusticus flattened. Ventriculi strongly dilated and filled with clear serum. Cerebral substance soft and anemic. Yellowish foci in the right portion of the tumor. Tumor hard and nearly extending to the surface.

ANATOMICAL DIAGNOSIS. — Tuberculum solitarium pontis varolii; pleuritis tuberculosa. cum exudato-serofibrinoso hemorrhagico; tnberculosis peritonei.

Pathological changes begin from below upward, only in the region of the lowermost portion of the olives. The differences of the halves of the transverse cut become distinct only on the level of the lower third of the olives. The same condition exists up to the incipient opening of the central canal. The differences of both transverse cut halves becomes striking on the level of the middle of the olives. Cuts on the level of the upper third of the olive present a perfectly different picture, the tubercle becoming visible at the higher cuts. The tubercle has considerably gained in extent at the upper end of the olives; it is greatly swollen at the lower third of the pons. The posterior longitudinal fasciculus is almost entirely destroyed on the right side, that of the left side being partly preserved, though strongly displaced. The tubercle gained still more in extent in the central third of the pons. The trigeminus on the left side is pretty well preserved in all its parts, the vicinity of the tubercle only compressing it. The cuts in the region of the corpora quadrigemina appear somewhat flattened. The author concludes from the microscopical examination, that there has been a destruction of the right-sided tegmental region within the pons, a partial degeneration of the interstitial olivary layer; a destruction of both abducent nuclei; a lesion of the right posterior longitudinal fasciculus of the facial nuclei and (in a smaller degree) of the right trigeminal nuclear region.

The total (peripheral) paralysis of nervus facialis is to be accounted for by compression of the nerve-trunk at the basal center. The destruction of the abducens-nuclei and the lesion of the posterior longitudinal fasciculus explains the disturbances of the ocular movements. The lesion of the right acousticus-nucleus corresponds perfectly to the clinical picture of the central auditory disturbance, The slight disturbance of the tactile sensibility on the left side corresponds to the lesion of the dorsal pons division, while the nearness of the superior peduncles of the cerebellum, as well as the slight lesion of Deiter's nucleus and the acustic-root, are responsible for vertigo.

The tic in the region of the left facialis, and the two symptoms of pain and ataxia confined to the left half of the body, are of great interest. The facial tic is, as a symptom, quite rare in the picture of phenomena produced by lesion of the pons. The first group of cases of facial tic is based on the injury striking the nerve trunk in its progress along the cerebral base. These are pre-eminently cases of aneurisms of the A. vertebralis. The socond group (to which our case belongs) embraces lesions of the facial within its "nucleus-root" domain.

The author regards the convulsions observed in his case as a phenomenon of irritation, originating by the direct action of an intrapontine tumor on the nerve-root. The clonic spasms observed by irritation of a root in the region of cerebral nerves are not without an analogon in the region of the spinal cord. The author sees in the symptoms of half-sided pains, an analogon to a case of centrally developing pain.

The hemiataxia is nothing uncommon in affections of the pons.—*Amer. Med.-Surg. Bulletin.*

The Operative Treatment of Senile and Diabetic Gangrene of the Lower Extremities.—The radical therapeutic measures, which have been advocated by Manteuffel and Kuester in cases of spontaneous grangrene of the legs, are severely criticised and opposed in a very readable article by Landow which is based upon eighteen cases of gangrene which occured in the clinic of Prof. Koenig. It had been proposed by the authors above mentioned, to amputate at once either at the knee or in the lower or middle third of the thigh, and they reserved amputation below the knee for other cases in which gangrene was limited to small portions of the toes, and in which the line of demarkation was distinctly marked.

Koenig has never followed these radical methods, and by performing more conservative operations of the foot and leg he obtained such good results, and by amputating in the region of the thigh his results were so unfavorable that has entirely discarded the recommendations of the radicals.

Landow reports in detail the history of eighteen patients, seventeen males and one female, whose ages ranged from forty to seyenty-nine years. Seven of these cases suffered with arterio sclerosis aud eleven were diabetics. The object of the local treatment, which consisted of elevating the leg, antisepsis and incisions, was to counteract the local extension of the disease. In the diabetics the diet was carefully regulated. When the line of demarcation had been formed the amputation necessary was done in the healthy tissues about two or three finger breadths above the line. In those cases in which the progress of the gangrene was not brought to a stand-still amputation was done higher up, but if possible always in the tissues of the leg, and amputation in the thigh was done in extreme cases only.

The following are the results which followed this course of treatment: Three of the patients cannot be considered in this calculation; two left the hospital prematurely; a third died, without operation, of diabetic coma; case four healed after spontaneous separation of

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the necrotic skin of two toes. In the other fourteen cases amputations were made; in one a double amputation. Two of hese cases were amputations of toes; both recovered. In one case a Lisfranc was done, necrosis of the margins of the wound set in and the patient left before he was cured. In one case in which a Cohopart was done for senile gangrene, union by first intention took place.—*Centralblatt f. Chirurgie.*

In another case in which the same amputation was performed gangrene of the flaps took place, afterwards amputation in the middle of the leg was followed by a favorable result. In one case a Pirogoff for senile gangrene healed by first intention, he lived for a year and a half and died from the disease which attacked the other leg. Four cases are primary amputations of the leg, of these one died. Four are amputations of the thigh, all of these succumbed. The three diabetics died of coma, the case of senile gangrene of collapse.—*Deutsche Zeitschrift fuer Chirurgie.*

Circular Craniectomy.—Dumont (*Correspondenzblatt fur Schweizer Aerzte, Med. News*) has reported the case of a female infant, fourteen months old, in which circular craniectomy was performed for the relief of microcephalus. The child was the first-born of healthy parents and without hereditary predisposition. The birth was normal, although the labor was somewhat protracted. The child weighed six and a half pounds, and for the first two weeks presented no abnormality. At the end of this time it seemed to stop growing and to become dull. At the end of two months it commenced to roll its eyes upward, so that only the sclerotics were visible. At the same time slight twitching made its appearance at various parts of the body. At the age of four months the twitching was attended with cries. The convulsive attacks augmented in frequency ard intensity, consciousness being at times lost three or four times in succession. After such an attack the child appeared for some time exhausted, depressed, and pallid. The head was rather conical and the fontanels closed. The eyes were turned inward and upward. Not a tooth was visible in the jaws. The hands and feet were cyanotic and deformed by contractures. The child bored its head into the pillows. Crying was attended with a peculiar snoring sound, and swallowing was accomplished in jerks and with difficulty. The distance from the root of the nose to the external occipital protuberance measured nine inches, from one ear over the vertex to the other ear slightly more than ten inches. The condition was diagnosticated as one of microcephalus, with premature ossification of the cranial sutures and epileptiform attacks, and craniectomy was advised and acquiesced in. Accordingly, an incision was made in the scalp, extending in the middle line from the forehead to the external occipital protuberance. The scalp, with the periosteum, was turned back and a trephine-opening an inch in diameter was made below either parietal protuberance. From this point the bone was gnawed away with forceps and saw, forward and backward, until the vertex was freely movable. The scalp was then replaced and sutured and an antiseptic dressing applied. The operation lasted an hour, and was followed by manifestations of collapse, which, however, disappeared in the course of a short time. After the lapse of several days the child slept and drank better. The wound in the scalp closed by primary union, and no further convulsive attacks occurred. The cyanotic appearance subsided and the strabismus became less marked. Two months after the operation the vertex of the skull was still movable; incisor teeth had appeared in the upper and lower jaws; the strabismus had become much less marked; there appeared to be some signs of intelligence; and no convulsive attack had taken place.

Prehistoric Trephning.—Trephining in the stone age was done, according to Dr. Munro (*Fortnightly Review*), by scraping the skull with a sharp flint, though there is occasional evidence of its use in a sawing manner, such as obtained when the ruder implement was superseded by one of metal. The process was almost exclusively practiced upon children, probably on account of the facility with which it could then be accomplished, and probably also as an early precaution against those evils for which it was esteemed a prophylactic. What the dreaded evils were, was suggested by Dr. Broca, who, whilst he believed that the operation was primarily conducted for therapeutic purposes, saw behind these the apprehension of a supernatural demoniacal influence. Lenormant's "Chaldean Magic" describes "the wicked demon which seizes the body and which disturbs the body," and that "the disease of the forehead proceeds from the infernal regions, from the dwelling of the lord of the abyss." Many convulsions of children which disappear in adult life, were therefore regarded as the result of demoniacal possession. It was natural to assist the escape of the demon by boring a hole in the skull that formed his prison! When a patient survived the operation he becomes a living witness to the conquest of the fiend, and a fragment of his skull, taken after death from the very aperture that had furnished the exit, would constitute a powerful talisman. Chaldean demons are said to have fled from representatives of their own hideous forms, and if they were so sensitive on the score of personal appearance, others may have dreaded with equal keenness the tangible record of a previous defeat. It is certain that to cranial bones medicinal properties were ascribed, a belief in the efficacy of which persisted to the dawn of the eighteenth century; whilst, in recent years, such osseous relics were worn by aged Italians as charms against epilepsy and other nervous diseases. When once the dogma was promulgated that sanctity and a perforated skull were correlated, fond relatives might bore ... heads of the departed to facilitate the exodus of any malignant influence still lingering within, and to insure them, by the venerated aperture, a satisfactory position in their new existence. For similar reasons the bone amulet was buried with the deceased, and sometimes it was even placed within his skull.—Chicago *Med. Stand.*

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MEDICAL SOCIETIES

Philadelphia Academy of Surgery.

We are indebted for this report, of the meeting of December 4, 1893, to the *Medical Record.*

The President, Dr. William Hunt, in the chair.

Remarks upon the Treatment of Stricture of the Sigmoid Flexure and of the First Portion of the Rectum.

Dr. John B. Deaver read the following paper:

My object in offering a few remarks upon stricture of the sigmoid flexure and of the first portion of the rectum this evening is to obtain the views of the fellows present upon this, which is certainly a very important, subject, and to place upon record a case of stricture of the terminal portion of the sigmoid flexure and of the first portion of the rectum, recently under my care, in which the passage of a flexible rubber bougie (Wales) but one size, French scale, larger than that which had been passed many times before, caused perforation of the rectum below the stricture, resulting in the death of the patient within twenty-four hours thereafter from peritonitis. In order to discuss this subject to the best advantage I may be permitted to refer to one or two points in the anatomy of the first portion of the rectum, also to say a word or two concerning the diagnosis of stricture situated beyond the reach of the finger.

The rectum does not, as is usually described, begin at the brim of the pelvis opposite the sacro-iliac synchondrosis, whence it extends to about the center of the third piece of the sacrum and descends in front of the sacrum, the coccyx, etc., but commences at the terminal part of the omega loop, to which attention has been called by Treves as being the shape of the sigmoid flexure, and not S-shaped in answer to the description in the text-books on anatomy. Careful examination by myself of many bodies has confirmed the above statement. All of the omega loop, which includes the first portion of the rectum, occupies the pelvis in the adult. It will thus be understood that the first portion of the rectum makes with the second portion a decided angle; therefore an instrument of the caliber of the normal bowel, unless it be a flexible one which will pass through the third and the second portions, will not prove anything regarding the caliber of the first portion. Again, from the relation borne between the second and the first portions of the rectum much may be learned about the latter if it be infiltrated, upon introducing the finger into the second portion, through the walls of which the infiltration may be detected. The best form of flexible rubber bougie is one which is hollow, as the Wales instrument is, to the lower end of which can be attacked a fountain or Davidson syringe, and water thrown through this, favoring its passage by drawing out of the way the folds of the mucous membrane which would otherwise form an obstruction to its introduction.

The diagnosis of stricture of the second and third portions of the rectum is readily made by the sense of touch. When the index finger is not long enough to reach beyond the second portion with the patient lying on the back, it may be done with ease if the patient be turned upon the left side and the thighs slightly flexed upon the abdomen and the finger introduced into the anus from behind, as the tissues of the perineum can be carried a little distance in advance of the web of the index and middle finger. Contraction in this part of the bowel can often be diagnosticated by the introduction of a short, flexible Wales bougie, but the finger is the more trustworthy instrument. This, too, is the only portion of the bowel where we shall all admit that the operation of proctotomy for the relief of a contration is admissible. The soft, flexible rubber bougie is the only instrument that can be carried safely as well as surely through the upper portion of the rectum and the sigmoid flexure. The non-flexible rectal bougie is not only an unsafe instrument, particularly when the stricture is situated beyond the second portion of the rectum, but one which may mislead the surgeon in making a diagnosis of stricture when it does not exist.

The first portion of the rectum, like the sigmoid flexure, is connected to the back part of the abdominal cavity by a reflection of the peritoneum, the meso-rectum. On account of the bend made by the junction of the first and second portions of the rectum, it can be readily seen how the point of a non-flexible bougie is arrested by contact with the wall of the bowel at this point, which offers resistance to its further passage, and a diagnosis of a pathological obstruction made; or it may be that the bowel, owing to the meso rectum being preternaturally long, will be carried in advance of the point of the instrument to or beyond the median line in the neighborhood of the pubes, while, if the instrument by chance should pass into the sigmoid flexure, the latter, owing to the meso sigmoid, may be carried to or beyond the median line in the neighborhood of the umbilicus, which, in either event, might give rise to the belief that the bougie had passed into the bowel beyond, if not through, a supposed stricture.

There is a question of doubt in the minds of some as to the possibility of being able to carry a flexible rubber tube or bougie through, and beyond the sigmoid flexure. This has been tried upon the dead body in a number of instances, and, not having proved successful, the deduction has therefore been made that it is impossible to do it in the living subject. While I am aware of the difficulty attendant upon the introduction of an instrument into the descending colon in the dead body, due chiefly to the absence of muscular contractility, which facilitates the passage of the instrument on the one hand and offers a very decided barrier against its introduction on the other, also to the absence of the normal moisture in the shape of the mucus, I can not admit this to be so.

We well know that it is much easier to introduce a bougie through the normal urethra in the living subject

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than it is in the cadaver, and yet this ought to be more readily accomplished in the case of the urethra, where counter-pressure can be brought to bear to aid in the introduction of the instrument, than in the case of the bowel. I have very satisfactorily demonstrated upon many occasions the possibility of being able to circuit the sigmoid flexure with a soft, flexible tube such as the long flexible rectal bougie and the long flexible colon tube. In certain cases of intestinal obstruction I regard the passage of a soft, flexible tube into the sigmoid flexure, through which water can be thrown and the capacity of the large bowel ascertained, an important aid in the diagnosis between obstruction of the small and obstruction of the large intestine.

With the subjective symptoms of stricture of the large bowel present—namely, constipation, or may be attacks of diarrhea—the passage of ribbon-shaped stools or of choppy stools covered with mucus and blood, or preceded or followed by the passage of mucus and blood attended by tenesmus, the lower portion of the rectum being intact, as proved by a digital examination, it does not absolutely follow that a stricture is the cause in all instances, as we may see this train of symptoms consequent upon a subacute chronic catarrhal inflammation of the colon, of the sigmoid alone, or in ulceration of the sigmoid flexure; therefore, before we can get more definitely at the exact condition of affairs it will be necessary to resort to instrumental interference in the introduction of graduated sizes of flexible rubber bougie, when a diagnosis can generally be arrived at with a very fair degree of certainty. This should be done with all due care, and preferably by one experienced in the use of these instruments, as it has been demonstrated, particularly in the case I report to-night, that serious results can accrue from even the passage of a soft instrument, which argues strongly against the use of an inflexible or semi flexible instrument. From the relation the first portion of the rectum holds to the second when the former is the seat of extensive thickening or the walls contain a growth upon digital examination this can usually be detected. In this class of cases, as in disease of the second and third portions if in the female, much can be learned by careful digital examination of the vagina. I have on several occasions been able to feel with the finger masses in the first portion of the rectum, as well as the presence of a growth which had assumed some size in the terminal portion of the sigmoid, by carring the vault of the vagina well in advance of the examining finger, aided, too, by counter pressure made over the abdominal walls. Further, I believe these examinations are better made without ether, having the feelings of the patient to guide us and with less risk of injuring the bowel.

Where a mass is suspected in connection with symptoms of stricture, which would suggest malignant disease, there is considerable to be gained, however, by giving the patient ether, under the influence of which the abdomen can be palpated more satisfactorily. Another means of diagnosis—that of dilating the sphincter of the anus and the introduction of the hand into the rectum and the sigmoid—I have never had the courage to do. In cases of great doubt, rather than resort to the last procedure, I deem it more advisable to do an exploratory abdominal section. Exploratory abdominal section, however, done for the purpose of diagnosis in the questionable cases of stricture of the sigmoid and the first portion of the rectum, I am not a strong advocate of, as I think that a diagnosis in the majority of cases should be made without resorting to so complicated a measure. While I am aware of the little risk attending an exploratory abdominal section under strict cleanliness, I think the principal objection to be urged against it is that it lessons the responsibility of the surgeon as a diagnostician. Apart from this, I fear the modern tendency is too much in the direction of exploratory incisions in other regions of the body, as well as the abdominal cavity, for diagnostic purposes.

The operation should be the natural sequence of the diagnosis and not the diagnosis to the operation. Perfecting one's self in diagnostic attainments is certainly more creditable to a surgeon than to feel forced to have to open the belly cavity to determine that which may be done without.

The majority of cases of benign stricture involving the first portion of the rectum are amenable to treatment by either the bougie or colotomy. Stricture of the sigmoid flexure, very rare except when of malignant origin, is not nearly so favorable for gradual dilatation by the bougie. Stricture here located, be it benign or malignant, if the inflammatory process has advanced too far to permit of resection and anastomosis, or perhaps circular enterorrhaphy, the most that can be hoped for in the majority of instances is the establishment of an artificial anus in the loin.

The choice between iliac and lumbar colotomy must depend upon the merits of each case; ordinarily I prefer to make the operation through the loin. The only advantage I can see in the anterior (iliac) operation is the opportunity it affords to determine definitely the condition of the bowel, if a resection and anastomosis or enterorrhaphy is possible, and, if nothing short of an artificial anus will suffice, the making of it at once.

In a paper I read before the Philadelphia County Medical Society two years ago upon Lumbar *versus* Iliac Colotomy, I took the ground that the lumbar operation was the more preferable, inasmuch as the diagnosis of the condition rendering the operation of colotomy necessary should, in the majority of the cases, be made without having to open the peritoneal cavity as is done in the iliac operation.

In benign stricture of the sigmoid flexure and of the first portion of the rectum. I recommend gradual dilatation by means of the flexible rubber bougie. When this is not possible, more radical measures must be adopted. In malignant stricture of the above portions of the bowel the bougie can do nothing other than harm; directly, by hastening the diseased process, and indirectly, by misleading the patient in having him be-

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lieve that an operation will not be required. I believe the earlier radical operative interference in malignant disease of the bowel is instituted the better, and that if this practice was followed in all instances patients' lives would certainly be very materially prolonged and, in some cases, the disease perhaps eradicated by removing it while yet local. What holds good in the uterus and elsewhere regarding affections of this character, holds equally good in case of the bowel, the difficulty in affections of the latter organ being that not exposed to the sense of sight, the diagnosis can not be made with the same degree of certainty as in like conditions of the uterus, the breast, etc.

The advisability of furnishing the patient with a bougie and instructing him to pass it himself I am inclined to question; I think this is better done by the surgeon. In addition to instrumental and operative treatment, much is to be gained by constitutional treatment, particularly if the case be of specific origin; but unless the history clearly points to this we should be careful not to push the treatment too far for fear of the debilitating effects; by attention to the general health, by the administrattion of tonics, by advising the proper diet, by giving tonic laxatives to have the bowels moved daily.

In cases where tenesmus is excited by the presence of a collection of mucus it is advisable to introduce a long flexible rubber tube beyond the stricture, through which the bowel can be irrigated with warm water or with mild antiseptic astringents.

The following is the case I have referred to above: F. W. R., aged about thirty years, consulted me July 27, stating that he had a stricture of the large bowel, for which he was passing at intervals of from four to five days Nos. 9 and 11 Wales bougies by the advice of his physician. Upon being questioned, he described the symptoms characteristic of stricture of the sigmoid flexure, or of the latter and first portion of the rectum. He further stated that without the aid of medicine taken internally or the use of enemas it was impossible for him to have a passage. Digital examination of the rectum revealed nothing other than a rather capacious organ. Examination with the bougie showed the presense of an unquestionable obstruction nine inches within the anus. I advised continuance of the local treatment, but disapproved of his using the bougie himself. I passed a bougie up to the time of his last visit to me, when, upon introduoinn one a size larger than the one usuall used—namely, No. 12—which I had also passed before with but little difficulty, as the point of the instrument was engaging in the stricture he suddenly lurched forward upon the operating chair, and before I could withdraw the instrument he rebounded, as it were, upon the point of the bougie. This was immediately followed by severe abdominal pain. I feared the bowel had been penetrated on the anal side of the stricture, but was not certain, as the instrument was withdrawn clear of blood, and there was no blood passed after its withdrawal. I advised that he go to the hospital, where he would have the benefit of absolute rest and at the same time give me the opportunity of having him closely observed. Contrary to my advice, he went to his place of business, but came back to my office some time afterward, complaining of the pain being as severe as when he left me earlier in the morning. He now consented to go to the hospital. The pain was so severe as to require large doses of morphine to relieve him. He would not consent to an abdominal section, therefore I was powerless to do other than administer anodynes, counterirritants, etc. He died during the following night. The abdominal walls remained perfectly rigid, with the absence of tympany until four hours before he died, when there was pronounced dentition. An autopsy made shortly after death showed the presence of a purulent peritonitis and a linear stricture involving the terminal portion of the sigmoid flexure and the first portion of the rectum. The bowel immediately below the stricture, which was very much dilated, with the wall nearly as thin as tissue paper, showed a perforation. Upon opening the bowel, there were cicatrices which were evidently the result of ulceration. There were present old adhesions in the abdominal cavity in the neighborhood of the descending colon and sigmoid flexure. Upon opening the chest, there were present adhesions at the apices of the lungs. There was no further evidense of organic disease.

A few hours before his death, in a conversation with his mother, I learned, much to my surprise, that he had for some time back been giving himself an enema after each meal; this, to some extent at least, evidently accounted for the very much dilated and thin condition of the wall of the bowel, rendering it susceptible to penetration by the bougie.

The President.—I have recorded the following case in several places: Years ago I attended a gentleman who, as a result of disease of the cervical medulla, was thoroughly paralyzed. Every day the intestines would fill with flatus, and would introduce a tube beyond the sigmoid flexure and allow the gas to escape. This could be done in this case without the slightest difficulty. I do not know whether or not the relaxation from the paralysis had anything to do with it. I have tried to repeat the procedure since in the living subject, but have not succeeded, I have also read in some French authorities that it is impossible.

Dr. Thomas G. Morton.—I have knowledge of two cases of rectum perforation, neither of which was in my practice. The first case was a female of sixty or more years of age, who had been subject during the greater part of her adult life to constipation, for which enemata and mild laxatives gave relief. For a month or two before her death this condition had become more troublesome, and relief only partial; a digital examination by her physician, who pronounced double stricture with fecal accumulation and advised bougie dilatation; and shortly afterward made an attempt at digital stretching, which was followed by the introduction of a tube and an enema. An hour later the patient went into shock,

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and then profound collapse, and died forty-eight hours later. The autopsy showed an organic stricture, and a perforation of the bowel and general peritonitis, the injection having been thrown into the abdominal cavity.

The other case was a very similar one; intense pain followed the use of the dilator and injection, and the patient died very shortly, of peritonitis. I have, however, treated very many strictures at the location mentioned by Dr. Deaver, where much relief was afforded by the use of the bougies.

Dr. T. S. K. Morton.—The reader of the paper stated that he had found a capacious rectum, and said he believed that possibly the distention and weakening of the rectum were due to the frequent use of enemata. I call to mind an article by Mr. Thomas Bryant, referring to stricture of the rectum, in which he spoke of "ballooning" of the rectum as one of the symptoms. He regarded it as almost diagnostic of stricture. Mr. Bryant offered a number of theoretical explanations for the condition, all of which I do not at the moment recall. One was atrophy, from interference with nutrition; another, the retention of gas. He did not mention the possibility of its resulting from the use of enemata.

Dr. Deaver.—I was especially desirous of reporting this case, as the perforation was made by a soft instrument—much more flexible and soft than is used by most surgeons. It is only in recent years that I have been induced to use the soft instrument. I was surprised to have a result of this kind with an instrument which will double on contact with the hands.

I recall the paper of Mr. Bryant to which reference has been made. I have noticed this ballooning of the rectum in many cases, and in some cases of acute mechanical intestinal obstruction from plastic peritonitis, appendicitis, etc. It seems to be associated with obstruction of the bowel, and perhaps in my case it was a consequence of the stricture; but I think it is bad practice to use enemata at the rate of three a day, for fear of bringing about an atrophic condition of the bowel. In my paper I advise against the use of instruments in the rectum, as the finger is the best instrument; but beyond the second portion of the rectum we are not able to discover a stricture with the finger, and we must use a bougie. These are difficult cases to diagnosticate, and there is always an element of risk in the use of a bougie.

Tetanus.

Dr. William G. Porter roported the following: Helmer E., aged twenty three years; nativity, Sweden; occupation, machinist; weight, two hundred and fourteen pounds; height, six feet, two inches. Patient presented an excess of adipose tissue; skin and mucous membrane pale; had had pneumonia in 1892; was addicted to the use of alcohol, especially beer.

He was brought to the Philadelphia Hospital on the fourth day of the disease, at 1 A.M., November 11, 1893. with the history of having run a rusty nail in the sole of his foot, two weeks previously, while working in a cellar.

The wound gave no trouble, healing in a few days. Ten days after the injury he noticed some pain upon swallowing. The next morning his jaws were stiff, by evening he could not open his mouth, his back was stiff and the seat of severe pain, which he described as feeling like a band of constriction, passing from the back around the abdomen and down into the legs. Upon admission the jaws were firmly locked, the masseters hard, risus sardonicus present. There was a moderate degree of continuous opisthotonus, the abdominal muscles were board-like, and when lifted from the stretcher to the bed he moved as if made of one rigid piece, there being no motion in any joint from his head to his feet. Paroxysmal spasms occurred every one to three minutes, increasing the contractions of all the muscles involved in tonic spasm.

His pulse was soft and rapid, heart sounds weak, temperature 99° F., bowels had not moved for three days. An evacuation was secured by means of croton oil and a laxative enema. A little ether was given and a free and deep incision made where the punctured wound had been; it was thoroughly cleansed with bichloride (1 to 200), and a wet bichloride dressing applied. He was placed upon the combined bromides, forty five grains, with chloral, fifteen grains, every three hours. Nitroglycerin, one drop, every fifteen minutes till three doses were given, then every hour till there was flushing of the face, then every two hours.

Uranalysis showed a high-colored urine, specific gravity 1.033, a decided ring of albumin, an excess of chlorides, and a few granular casts.

The full effect of the chloral was not secured till the third day after admission, when there was given by the bowel during the afternoon two drachms of chloral with five drachms of bromides. He now slept soundly, and during the sleep there was less arching of the back and some relaxation of masseters. The paroxysmal spasms, however, did not seem to be influenced by the chloral. Its use by the bowel was continued, giving it in such doses and at such intervals as seemed indicated.

A free perspiration marked the entire course of the disease.

Within a few hours after admission the temperature became normal, and remained so till the seventh day, when it began a slow but continuous ascent.

Feeling was not difficult; the nozzle of the feeding cup was placed between his lips and the contents found their own way to his throat, frequently, however, causing repeated spasms of the pharyngeal muscles. For the first few days he was eager for milk, and five pints were given daily; later he did not care for nourishment, but continually craved beer. Eggs were given in milk and with sherry wine.

During the seventh day of the disease there was much less pain in the back. There was considerably less spasm; patient expressed himself as feeling much better. His mind had been perfectly clear up to this

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time, but during the night there was a little delirium, and a slight tendency to pick at the bed clothes.

Eighth day—Lower jaw drops a little during sleep, head not thrown back, paroxysms frequent but not severe. During the night considerable delirium and some twitching of the muscles and carphologia.

Ninth day.—All continuous spasm had disappeared, mouth open, and a guard was placed between the teeth to protect the tongue being bitten during the paroxysms, which were marked by promt snapping of the jaws. At 5:30 P.M. he had a prolonged and severe spasm, after which there was a great muscular relaxation; urine and feces were passed involuntarily, respirations became very shallow, no radial pulse could be felt, and he became profoundly unconscious.

At noon his temperature had been 104°; at 5:30 it was 106°; at 6:00, 107°; at 6:20, 108°; at 7:00, 109°. At 7:20 the heart ceased beating. Shortly after the cessation of respiration, half an hour later, the temperature of the body was 111°. Antitoxine: Upon the evening of the seventh day the administration of antitoxine was begun. It was deeply injected into the muscles of the thigh twice daily in ascending doses. The first dose was 20 centigrammes, the last dose 160 centigrammes.

This treatment appeared to have no influence upon the symptoms. There were no local effects at the points of injection. The temperature had begun to rise before the first dose was given.

A post mortem examination was not secured by the hospital authorities, but was, however, secured after the removal of the body. The membranes of the brain and cord were found intensely hyperemic; the brain was edematous; the ventricles and central canal of the distended with fluid. The brain and cord are preserved for further examinatfon.

Heart flabby and relaxed. The blood in the auricles and great vessels are dark and fluid. Nothing noteworthy found in other organs.

For these notes and her untiring care of the patient I am indebted to my very efficient resident, Dr. Emma J. Lucas, and for the opportunity of using the antitoxine to Dr. William E. Hughes and Dr. Carter, who furnished the material and made the injections.

Dr. John B. Roberts.—I have been much interested in Dr. Porter's account of the unsuccessful use of antitoxine in acute tetanus. I am inclined to believe, from what I have read, that most of the cases that have recovered have been rather mild cases, and that the more severe cases have not shown any very brilliant result from the use of such treatment.

Equino-Varus with Dislocation of the Astragalus.

Dr. Thomas G. Morton exhibited a patient, aged twenty-two months, on whom he had operated for this condition. He had removed the astragalus from each foot.

The Radical Cure of Hernia by Bassini's Method.

Dr. John B. Deaver exhibited a patient showing the result of an operation which had been performed October 12, on account of temporarily irreducible hernia and the inability to control the hernia properly by a truss. This operation had the advantage of not confining the patient to bed for a long time. It consisted practically in making a new inguinal canal. The hernia was exposed and the spermatic cord separated from the sac. The hernia was reduced and the sac tied off close within the abdominal cavity and the redundant portion cut away. The internal oblique and transversalis muscles, with the rectus, were then stitched to Poupart's ligament, the cord was placed over these muscles, and the skin and superficial fascia were placed over the cord. He used buried sutures of silkworm gut, which were allowed to remain.

Dr. James M. Barton.—On several occasions I have started to perform Halsted's or Bassini's operation, but when I have got to the ring I have found the hernia so old that there was practically no canal, one ring lying directly over the other, and,as it seemed to me impossible to perform either of these operations, I have performd the Macewen operation. In my earlier Macewen operations I cut off all but four or five inches of the sac, when it was very long, fearing there might be sloughing if I retained it all, but in the later operations I have used the entire sac in all, even when a foot long. I would ask Dr. Deaver if in these cases of large hernia, when the two rings practically correspond, he makes any attempt to do Halsted's or Bassini's operation?

Dr. Deaver.—In answer to Dr. Barton, I would state that I have done very few of the Bassini operations, but in such cases as Dr. Barton mentions I have done Barker's operation, without, however, obtaining a permanent radical cure. This operation consists principally in tying off the sac at the internal abdominal ring. As Dr. Barton has pointed out, I think there would be some difficulty in doing Bassini's operation.

Prize of the American Neurological Association.—The American Neurological Association offers a prize of $200 for the best essay on any subject connected with neurologic science.

This competition is open to physicians who are legal residents of States in North or South America.

Essays must be sent to the Secretary of the Association, Graeme M. Hammond, M.D., 58 West 45th Street, New York City, on or before May 1, 1894.

Each essay shall be accompanied by a sealed envelope containing the name and address of the author, and bearing on the outside a motto, which shall also be inscirbed upon the essay.

Essays shall be type-written, in either the English or French language, and with the pages securely fastened.

The council of the Association reserves the right to reject any are all essays judged unworthy of the award.

Each essay must exhibit orginal research, and none will be accepted that has previously been published.

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NOTES AND ITEMS

A Bust of Professor N. S. Davis.—An excellent bust of Professor N. S. Davis, by Mr. Starr, has been placed in the Art Institute of Chicago, where it is much admired.

A New Emergency Hospital in Boston.—A new emergency hospital, to cost about a hundred thousand dollars, is to be built by the friends and trustees of Tufts College: and the clinical advantages are to be given wholly and exclusively to the student of Tufts Medical School.

Caisson Disease.—Four cases of this affection have occurred within the past month, three of which have ended in recovery, in connection with the work on the gas-tunnel under the East River. It is stated that there have been seven fatal cases since the beginning of the work, about twenty months ago.

Post-Mortem Idrosis.—A writer in the *International Medical Magazine* records the following curious phenomenon in a case of death from angina pectoris. "The face of the corpse seemed to be bathed in perspiration, the moisture reproducing itself after being wiped off, in spite of the presence of rigor mortis and other unmistakable evidences of death. This most extraordinary phemonenon was witnessed by several local physicians who also viewed the body. The funeral was on that account delayed several hours until decomposition had fully set in."

The International Congress.—The *Lancet* correspondent writes:

"Up to last night the number of intending participants was 3,800—1,800 from abroad and 2,000 from Italy. The communciations, scientific and practical, already received amount to 1,000 (in round numbers), although the time for sending them in does not expire till the middle of January next. More than half of these are of non-Italian origin and embody original researches and conclusions. The national committees abroad—those, that is to say, already constituted—are forty in number, while several of them, on account of the vast territorial extension of the States to which they belong, have been subdivided into various subcommittees."

The Status of Acting Medical Officers of the Army.—About two years ago Dr. John T. Nagle, of New York, sought by application to the Secretary of War to be awarded one of the medals of honor authorized by Congress in 1868 to be presented to such officers non-commissioned officers, and privates as had most distinguished themselves in action. His request was denied, partly on the ground that he had allowed so long a period as twenty-eight years to elapse before making it and partly because the acts of gallantry for which he sought recognition had not been mentioned in official reports, but chiefly for the reason that at the time of performing those acts he was neither officer, non-commissioned officer, nor private. In a renewal of his request, made last summer, Dr. Nagle states that the conspicuous acts of bravery on which he founds it were performed by him at the battle of Kenstown, in Virginia, on July 24, 1864, while he was serving as an acting assistant surgeon, or "contract surgeon." It seems that the commander of a body of dismounted cavalary was wounded and disabled, and its other commissioned officers abandoned it, whereupon Dr. Nagle assumed the command and rallied the men; that he attempted to spike a gun in the face of the enemy and assisted in saving it from falling into the enemy's hands when it had been abandoned by the Union forces; that he set fire to a baggage-wagon and destroyed other material of warfare that would otherwise have been captured; and that he was one of a party of five that rode under a flag of truce toward the enemy's lines at Bolivar Heights and reported the disapperance of the enemy to General Siegel, thereby relieving the besieged army at Maryland Heights and liberating it for action. Dr. Nagle is quite warranted in adding, as he does, that these acts, having been performed while he was serving as a medical officer, ought to be considered more meritorious than if they had been done by a field or line officer in the line of duty. Testimony as to the performance of the acts specified is borne by Lieutenant-Colonel Young, now of the 4th Cavalry, and by Captain Mason of the 2d New York Cavalry.

Dr. Nagle has recently published a pamphlet in which he recounts the facts pertaining to his petition and to its denial by the War Department, and argues very forcibly against the justice of that denial. His argument deals principally with the ruling that an acting medical officer is not an officer within the meaning of the act. This ruling rested partly on the statement that acting medical officers were not required to wear a uniform. We have heretofore supposed that this was the case; the writer of this article, who himself served as an acting assistant surgeon for several months, never saw such a medical officer in the first lieutenant's uniform, although he distinctly remembers that the medical officer of the day always wore a sash and, in the absence of a commissioned officer, actually exercised command over the non-commissioned officers and enlisted men at a post. Dr. Nagle, however, adduces the testimony of many gentlemen who formerly served as acting medical officers, to the effect that they were required to wear the uniform; furthermore, he cites a number of official documents in which such persons are spoken of as medical officers. All things considered, it seems to us that he has made out a case strong enough to call for further consideration on the part of the War Department, and on the ground that an acting medical officer is really an officer.—New York *Med. Journ.*

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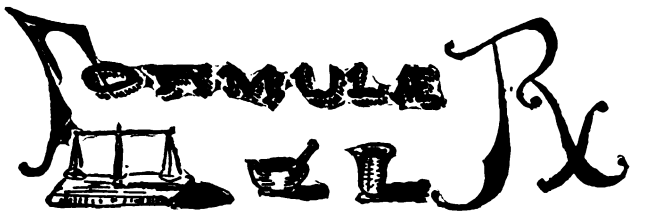

Dysentery.

℞ Bismuth. subnitric., - - - - - - ℥ij.
Rad. ipecac. pulv.,
Opii puri pulv., - - - - - - - - aa gr.v.
Sennine, - - - - - - - - - - gr.x.
Sacch. alb., - - - - - - - - - ℥j.
M. F. pulv. Divide in dos. No. x.
Sig. One powder every three hours.

Diabetes Insipidus.

℞ Sodii salicylic, - - - - - - - - ℥ss.
Tinct. opii, - - - - - - - - - ʒj.
Ag. menth. pip., - - - - - - - - fʒv.
Glycerin, - - - - - - - - - fʒj.
M.
Sig. Tablespoonful four times a day.

Chordee.

℞ Pulv. opii, - - - - - - - - - gr.x.
Pulv. camphor., - - - - - - - - - ʒj.
Potass. bromid., - - - - - - - - ℥j.
Sacch. alb., - - - - - - - - - ℥ss.
M. F. pulv. Divide in dos. No. x.
Sig. One powder every two hours if necessary.

Lead Colic.

℞ Magnesia sulphuric., - - - - - - ℥j.
Acid. sulphuric. dil., - - - - - - fʒj
Aq. menth. pip., - - - - - - - ℥ss.
M.
Sig. Teaspoonful three times a day.

Dropsy.

℞ Fl. extr. digital.,
Fl. extr. scillæ, - - - - - - - aa ʒj.
Potass. acetat., - - - - - - - - ℥ss.
Aq. petroselin, - - - - - - - - fʒiij.
Syr. juniperi, - - - - - - - - - fʒj.
M.
Sig. Tablespoonful every three hours.

Arthritis.

℞ Scott's Emulsion, - - - - - - 1 bottle.
Sig. As directed.

Drowsiness.

℞ Iodide of potass., - - - - - - - ℥ss.
Bicarbonate of soda, - - - - - - - ℥j.
Aq. destill., - - - - - - - - - fʒiij.
Syrup. aurant., - - - - - - - - fʒj.
M.
Sig. Tablespoonful three times - day.

Flatulence.

℞ Tinc.. cardamom.,
Tinct. chinæ,
Spirit. eth. nitros., - - - - - - aa ℥ss.
Ol. menth. pip., - - - - - - - - gtt.j.
M.
Sig. Half a teaspoonful three times a day.

DUNLAP, KANS., January 6, 1894.

DIOS CHEMICAL CO., St. Louis, Mo.—

GENTLEMEN—I am using Sennine at present in a case of sarcoma (after operation), and find it an excellent antiseptic, much preferable to iodoform. Respectfully yours,

A. B. ELWOOD, M.D.

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C. W. TAYLOR, of Shelbyville, Ky., writes as follows to the Dios Chemical Co. St Louis: "I am more than satisfied with the action of Neurosine and am prescribing it right along. The Dioviburnia I have been using for sometime with excellent results."

DR. A. S. ROBERTS, La Cygne, Kan., says: "I am using Sander & Sons' Eucalypti Extract, Eucalyptol in disorders of the respiratory organs. Eucalyptus is a favorite drug with me, and Sander & Sons' preparation is the desiratum long wished for. The other different preparation of the drug have been anything but satisfactory."

IT IS A SPLENDID MEDICINE.—Lyman L. Whitaker, M.D., of Elmendorf, Texas, writes as follows to the Dios Chemical Co., St. Louis: "In regard to my experience with Dioviburnia, I must say it is a splendid medicine and is just the thing recommended. No physician should be without it."

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

V.—The Products of Vital Cellular and Bacterial Activity.

The time has long past when the doctrine of the micro-organic origin of disease and infection was forced to contest its claims to recognition and acceptance. It stands to-day in the position of a demonstrated and generally accepted fact. Indeed the purely deductive argument advanced as to the causation of infectious diseases by living organisms has been staunchly supported during the past twenty-five years by a mass of reliable observations and experiments which render the doctrine no longer an hypothesis, or a theory, but a clearly demonstrated and established fact. Upon such a strong foundation of fact the argument by analogy possesses added force in support of the micro-organic origin of those infectious diseases in which the specific organisms have not as yet been either discovered or isolated. The proof becomes complete and absolute when three conditions are fulfilled; these are first, the demonstration of the constant presence of a special or specific germ in association with the lesions and symptoms of the disease; second, the isolation and cultivation of this specific organism by means of a series of pure cultures; third, the production or generation of the disease in an organism free from it by means of the inoculation of the organism so isolated. The presence of all three conditions is sufficient proof, indeed most convincing proof.

Not only has the micro-organic origin of putrefaction and fermentation been settled beyond any possible shadow of doubt but the same principles have been more widely applied in their relations to the cause of disease in general. For this generalization and extension of principles we are indebted to the illustrious Koch. To Schwann we are indebted for the demonstration of the dependence of putrefaction in *dead* flesh upon micro organisms; to Pasteur and to Lister for the extension of these principles to *living* flesh; but to Koch for the extension of the principle to the specific causes of various infectious diseases.

All living cells, whether of animal or vegetable origin, while in the conditions of active growth and development appropriate for their nutrition, by processes of selection it may be, certain desirable elements from among those which constitute the food with which they are supplied. At the same time they also excrete various substances which, in some cases at least, it may be their special and peculiar function ty produce. In the case of members of the higher orders of the animal and vegetable kingdoms these functions of secretion and excretion may be delegated to special cells whose peculiar function may be the elimination of substances injurious to the economy or to the secretion of substances necessary its existence. For example, among the higher animals we have the special function of the excretion of urea delegated to the epithelial structure of the kidneys, while to the mucous membrane of the stomach with its gastric glands are delegated the functions of gastric secretion so necessary to the material existence of the organism. The functions of which these are a type may be found in a simpler and possibly more modified degree in even the lower members of both kingdoms, all of which functions seem to serve, either directly or indirectly, the promotion and preservation of the health of the organism. Even the deadly ptomaines, so prejudicial to the health and life of the unwilling host of the pathogenic bacteria, subserve the interest of the germ by paralyzing the vitality and resistive power of the organism upon which, and at the expense of which, it thrives.

It was generally believed, until quite recently, that air and its contained oxygen were absolutely necessary to all forms of animal life. The life of a more or less complex organism is necessarily the sum total of the lives of its various component parts which are, in the main, animal cells. Gautier has successfully proven that at least one fifth of these are anaerobic; that is, the generation of the vital force is not in these specia

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forms dependent upon the presence of air. But whether dependent or not all cells excrete cetain products which must of necessity be expelled from the organism or else its vitality must succumb. Were the carbon di-oxid, the urea, the water or even the heat generated in the vital processes of the human organism allowed to accumulate either one could and would eventually destroy the very vitality which brought it into existence

Indeed the products of vital activity on the part of the germ or cell are exceedingly numerous and varied. A considerable number of species possess the peculiar power of forming certain pigments of various shades and colors which may run the whole chromatic gamut of the solar spectrum from the violet on the one side to the red on the other. This fact is made use of in the classification and nomenclature of certain micro-organisms. Again, certain species have the power, when placed in a culture medium of gelatin, of liquefying the gelatine in their immediate vicinity; while others may thrive and multiply abundantly in the same medium without the production of such phenomena. Indeed this fact, as was first shown by Koch, is an important one in the differentiation of many species resembling each other in many respects. Moreover certain bacteria have the property of causing the development of an acid reaction in the media in which they are cultivated. This power may well be shown by adding litmus infusion to neutral or alkaline culture media. The change in color from blue to red, due to the formation of an acid, may be followed macroscopically by the naked eye. Among the acids which may be so produced are formic, acetic, butyric, propionic, valeric and many others of the group of so called "fatty acids," as well as others. Then also the putrefactive decomposition of proteid bodies may be effected by a great variety of micro-organisms, giving rise to as great a variety of products, some of which are gaseous, ephemeral and exceedingly malodorous. Of course such products of putrefaction vary with the nature and composition of the body decomposed, the conditions by which it is surrounded and by the micro organisms present affecting such decomposition.

But probably the most important of all the substances resulting from germ life which can engage our consideration are those which have been variously termed ptomaines, leucomaines, toxines, toxalbumins, animal alkaloids, putrefactive alkaloids, bacterial proteids, etc. The fact must have been known even to primitive man that the ingestion of putrid flesh was liable to affect the health to an extent more or less serious in nature. Consequently he must then have made some attempts at preservation, however crude; these may or may not have been successful, in the latter case giving rise to an increase in and multiplication of cases of poisoning from putrefactive products. These facts must have resolved themselves into questions of prime importance very early in the history of the race, for coeval with our first periods of history we find definite records which show that man was, even at that remote time, busily engaged in his serious battle against the ravages time, decomposition and decay. Though the facts themselves were known and the causes but dimly dreamed no attention was paid to the consideration of the products of decay themselves until the eighteenth century. Since then chemists have at various times isolated from putrefactive products, or from cultures of the bacteria concerned in putrefaction, or from certain other pathogenic species, various nitrogenous substances resulting from the action of bacteria upon organic substances; these were basic in character and strongly resembled in nature and in chemical constitution, as well as physiological action, the so called vegetable alkaloids—indeed they have been variously termed animal and putrefactive alkaloids.

It is hardly possible even in the present advanced status of science to closely follow up all of the various chemical changes which complex histologic molecules may undergo, yet it is hardly sufficient to say that ptomaine is the alkaloidal waste product of the cell. It is in reality something more than this, representing as it does the result of a series of cyclical changes which in themselves represent the tremendous cellular activity by means of which they were engendered. However the essential idea is that of putrefactive change; while leucomaines are supposed to be those vital and essential and analogous alkaloids which are formed in the *living* organism and prior to its death. Some of these substances are non-toxic while others, graphically termed *toxines* by Brieger, are extremely poisonous, even in minute doses. While some of them may be non-toxic however, yet their continual retention, accumulation and consequent absorption may result in serious harm, although not the direct result of active toxicity. Indeed the products of life are largely excrementitious in character and cannot be retained within the organism for any appreciable length of time with impunity. Normally they undergo destruction or excretion by those ordinary physiological processes which are, in perfect health, in constant operation. If from any cause these processes are interrupted, whether that cause be emotional or physical, defective absorption, oxidation or excretion results and the blood becomes charged with abnormal products; these are carried to the centres of life and function and the result is the institution of one or more of the various protean forms of disorder. With each and every micro organism the function of excretion is obligatory—indeed it is but a link in the completed chain of vital activity. Ptomaines and leucomaines are the result, the first in the dead body and the second in the living body; they are residual products just as much as the carbon di-oxid and urea of the human organism. When these residual products of micro-organic life are once generated within the system the tissues seem incapable of selection, making no distinction either as to origin or intended destination.

The term ptomaine (a cadaver or that which has fallen) was first suggested by the Italian toxicologist Selmi as a suitable name for certain cadaveric alkaloids

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which he had isolated. Although the effect of the ingestion of putrid matter upon man and the lower animals must have been observed ages ago, yet Albert von Haller, the distinguished physiologist, seems to have been the first person to institute systematic and scientific experiments with a view to a more exact knowledge of the phenomena involved. He injected aqueous extracts of putrid matter into the veins of animals and found that death followed. Later in the eighteenth century Morand gave an account of symptoms induced by the eating of poisonous meat. Very little other research was indulged in until the present century. Gaspard (1806—1813) carried on experiments similar to those of Haller and Morand; he produced nervous disturbances, stiffness of the limbs, opisthotonos and tetanus. He thought the untoward symptoms were not due to carbon di-oxid or hydrogen sulphid, as had been suggested, but admitted the possibility that ammonia might play some part in the production of such symptoms. When we remember that most of the ptomaines are either amines or analogous compounds and that the first determination of their exact chemical nature was made by Nencki in 1876 we can hardly restrain our admiration of the accuracy of this surmise of Gaspard which anticipated in a measure the results revealed by chemical science sixty-five years later. Kerner (1820) published his first essay upon poisonous sausage, followed by a second in 1822. He at first thought the poisonous principle to be due to the presence of a fatty acid (which he termed caseic acid) generated in the putrefactive process; later he thought it was a compound resulting from the union of the fatty acid and a volatile principle. Thus Gaspard and Kerner clearly hint at the basic character of the poisonous principle of decomposition. Dupre (1822) observed and reported the existence of a peculiar disease which existed among the soldiers of a garrison compelled to drink very foul water during a warm and dry summer. Magendie, Leuret, Dupuy and Trousseau carried on investigations but contributed comparatively little to the knowledge of the subject. Dann, Weiss, Buechner, Schumann, Cadet de Gassicourt and Orfila all devoted considerable study to the active principle of poisonous sausage but made no advance upon Kerner's original work. Henneman, Huennefeld, Westrumb and Sertuerner investigated the principle of poisonous cheese; this however they believed to be the caseic acid of Kerner. Schmidt of Dorpat (1850) made researches into the nature of the decomposition products and volatile substances found in cholera stools. Meyer (1852) studied the effects produced by the injection of the blood and stools of cholera patients into the lower animals. Stich (1853) discovered that putrid matter in sufficient quantities produced intestinal catarrh and choleraic stools when ingested. These were accompanied by nervous tremblings and other symptoms together with an unsteady gait, but produced no lesions. He concluded from these results that putrid matter must contain a ferment capable of producing rapid decomposition of the blood.

Panum (1856) made a most important contribution to the subject. He demonstrated positively the *chemical* nature of the posionous principle of putrefaction and showed that the aqueous extract of putrid material retained its poisonous properties even after heating and such treatment as would insure the destruction of organisms if present. The results thus obtained were confirmed in the next ten years by Weber, Hemmer and Schwenninger. Bence Jones and Dupre (1866) obtained a similar body from liver. Bergmann and Schmiedeberg (1868) separated a poisonous substance, which they called sepsine, from putrid yeast and decomposing blood. Even when administered in small doses this substance produced vomiting and profuse bloody diarrhea in dogs and, in sufficient doses, death. Zuelzer and Sonnenschein (1869) prepared a nitrogenous base from decomposing meat. In its chemical reactions and physiological behavior it strongly resembled atropin and hyoscyamin; it was also found in the bodies of those dead from typhoid fever and it was thought possible that the belladdonna-like delirium of the latter stages of the disease might be caused by an ante-mortem generation of the poison within the body. Though many efforts had been made to isolate as well as to produce these peculiar substances such isolation was first successfully accomplished by Francesco Selmi (1873–1876). He made extensive and valuable researches, it is true, but remained in ignorance of the chemical constitution and composition of the bodies which he had isolated. Indeed Nencki (1876) made the first ultimate chemical analysis and determined the first chemical formula for a ptomaine; this was an isomer of collodine. Roersch and Fassbender obtained in a case of suspected poisoning a liquid which could be extracted by ether from either acid or alkaline solutions; it gave all of the characteristic alkaloidal reactions, resembling digitalin in particular. Gunning found the same alkaloid in liver-sausage, from which poisoning had occurred. From human bodies which had been dead for several months Selmi removed many alkaloidal bases; one was found to be a very violent poison, producing in rabbits tetanus, marked dilatation of the pupils, paralysis and death. Lombroso (1871) showed that the extract from mouldy corn meal produced tetanic convulsions in animals. These investigations threw some light upon the causes of sporadic cases of illness among the peasants of Lombardy who eat fermenting and mouldy corn meal. In 1876 Brugnatelli and Zenoni obtained an alkaloidal substance from this mouldy meal. Guareschi and Mosso obtained various volatile and non-volatile bases from decomposing human brains. Brieger of Berlin isolated and determined the composition of a number of ptomaines and in 1885 published a valuable work upon the subject. From pure cultures of the typhoid bacillus of Eberth and Koch he obtained a poison (typhotoxine) and from similar cultures of the tetanus germ of Rosenbach he produced a similar body (tetanine). Brieger

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gestion give rise to symptoms strongly resembling in their dangerous and alarming nature the characteristics of acute alkaloidal poisoning.

The field of research in the direction of the therapeutic applications and value of the products of vital bacterial activity lies almost fallow. Its primitive cultivation has afforded such rich fruit that we are justified in looking to it for an abundant harvest. When Science shall have placed within the hands of the physician those potent weapons which the germ itself uses with such deadly effect, then shall begin such a battle with disease as the world has never witnessed and then shall ensue a victory which shall be not more glorious than complete.

[TO BE CONTINUED.]

Report of Two Cases of Movable Kidney, Operation—Recovery.

BY DR. AUGUSTE REU, MARION OHIO.

Read before the Northwestern Ohio Medical Association, Toledo, Ohio, Friday, Dec. 15, 1893.

CASE 1.—Mrs. S. B., age 27, physique stooped, panniculus adiposus scant, exceedingly nervous, began to menstruate at the age of 13, has been regular. Two years ago she lifted a heavy weight and ever since she has suffered continously with extreme nervousness, hysteria, hystero-epileptic seizures principally so during the menstural period, frequent attacks of cardiac palpitation, vertigo, polyuria and dysuria, attack of temporary blind spells, excessive eye pains and general hysterical hyperesthesia of the retina, almost a constant eructation of gases, and gastro intestinal indigestion, constipation, more or less dysmenorrhea, pain in the back and in the lumbar region, crural neuralgia, no theraputic measures, of whateven kind and mode employed gave this patient the slightest relief. Consultation with the leading specialists in our larger cities were equally futil, no one ever said kidneys, no one thought of ever examining this patient in the erect posture, or even discovered the displaced right kidney in the left lateral decubitus (Sims position); most of the symptoms were mainly reflex and caused by the pressure on the great sympathetic nervous system, which accounted for the disturbed and apparently diseased pelvic organs. In pelvic disease it is fallacious as a rule, to rely soly upon the subjective symptoms. In this case bimanual palpation revealed the tubes, ovaries and uterus normal.

The patient finally became pregnant, when during the later half of utero-gestation she began to feel comfortable, and thought she was entirely well, no doubt the gravid uterus acted as a splint to retain the displaced kidney in its normal place. After her delivery the old symptoms began to appear gradually, and life again became a burden. Up to this time I had not met with a movable kidney in my practice, hence the condition was not looked for, or at best, not properly sought for, calls special attention to the fact that most of the characteristic ptomaines are diamines; that chemically they are more simple in composition than the vegetable alkaloids, which they resemble, and that many of the ptomaines are derivatives of hydro-carbons of the ethyl series and are in distinction from true alkaloids representing the pyridine group. Vaughan, who is by the leading American authority upon the subject of ptomoines, isolated in 1884–1885 an active agent (tyrotoxican) from poisonous cheese. Koch and others demonstrated the presence of a poisonous substance in cultures of the cholera bacillus; Hoffa did the same in case of the anthrax bacillus. Hankin (1889) isolated toxic albumose from cultures of the anthrax bacilli which proved fatal in quanties *but in small doses afforded immunity*. The investigations of the past few years have been mainly in the direction indicated by the results of Hankin. Now the fact that a germ is pathogenic is considered to be sufficient evidence of the fact that it elaborates poisonous products and the study of these products is justly regarded as one of the greatest importance in the investigation of the germ and the disease which it causes. The interest in the subject is not confined alone to the study of the aetiology of disease but strenuous efforts are being made with a view towards the securing of immunity from disease and indeed even to effect cures of disease by means of the use of these self-same bacterial products. If the excrementitious products of the human organism possess the power, when retained, of ultimately destroying the life or impairing the health of that organism, why should not such be true also of the germ which likewise generates excrementitious products? Our knowledge of the latter conditions is as yet in the embryonic stage, but to that knowledge, crude and imperfect as it is, we owe the tuberculin of Koch, the anti-cholerine of Klebs, the pneumotoxine, typhotoxine, etc., which though not as successful and infallible as enthusiasm had anticipated yet in spite of their crudities and imperfections, succeeded in making a vast and manifest stride in the proper direction; when they failed they taught lessons as valuable as those imparted by their successes. In this direction lies the domain of the medicine of the future in this direction Science points with inexorable finger. Who can predicate the successes of the future which lie as yet unborn within the matrix of Eternity?

Indeed we may now regard it as conclusively proved that the pathogenic power of those bacteria instrumental in the development of so many and various infectious diseases in man and the lower of animals is largely if not entirely dependent upon their power of producing toxic ptomaines or toxalbumins. They may affect the organism directly or indirectly by the medium of the food or ingested articles. That is, the toxic substance may be produced within the body by septic or other processes and then after absorption give rise to systemic infection. Or the products may be elaborated in such articles as cheese, milk, meat, etc., and the toxic products resulting from an extraneous action may upon in-

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when found, I said, the proper place for th, kidney was certainly not in the abdominal cavity, therefore advised nephrorrhapy to which the patient reluctantly gave her consent, after careful preparatory measures and under strict asepsis I operated this patient, March 18, 1893, 9 A.M. After thoroughly scrubbing the parts, a general soap and hot water bath, followed by an alcohol bath, and lastly a general inunction with quinine paste.

All this as well a laxative were ordered the evening before the operation. The following morning the bowels were moved by an enema, the urine again examined, the patient was then ordered a light morning collation. After anesthesia the parts were again thoroughly cleansed with soap and hot water, followed by a sublimate bath, and lastly an alcohol bath. The patient was then placed in the left lateral decubitus, an assistant holding the kidney in place, I made a lumbar incision and easily found the right kidney, secured the same by fine tenaculi and took the kidney out, the next step consisted in splitting the capsula propria, passed a number of catgut suters through the kidney, the ends through the fascia and muscle after replacing the kidney, I securely anchored the same by these catgut sutures, united the tissues by concealed sutures and providing drainage at the most dependent angle of the lumbar incision, a carefully adjusted sterilized dressing completed the operation.

I omitted in stating that I did not find the peri-renal fat absorbed in this case. Before the nephrorrhaphy, the right kidney could be easily palpated with the patient standing to the right of the examiner and in this position could be replaced under the liver with ease. I kept this patient confined to the bed for three weeks, during the first 24 hours she had a slight hematuria,and after the third day no pain nor temperature worthy of mention, from this on, her recovery was uneventful, and now nearly a year after the operation she is in the full emjoyment of robust health.

CASE 2 —MRS. O. S., AGE 30, MOVABLE RIGHT KIDNEY, NEPHRORRHAPHY—RECOVERY.

This case being so similar, I will omit in giving a complete history. The only difference in the symptomatology was, that this patient did not have the distressing ocular symptoms but had an excess of vessical trouble accompanied by the other nervous phenomena so constantly found in these cases. I have at present three cases of movable kidney under observation, and recently was called in counsel with one of our physicians in a neighboring town, when I confirmed the diagnosis of the doctor, which was that of a movable right kidney, it is somewhat remarkable that all the cases which I have thus fare operated upon, as well the cases now under observation, were the right kidney. In my opinion the subject of movable kidney and the operation of nephrorrhaphy, is of great importance to every practitioner of medecine. It is also of much greater frequency in woman than is generally supposed. A distinction should be maintained between a movable and a floating kidney. A movable kidney is one movable within a pouch or hollow formed within its own fatty capsule which it carries with it in its excursions, and is supplied with a mesonephron, the length of which determines the degree of mobility (Edebohls). Mr. Henry Morris in a lecture on some changes in surgical opinion regarding the diseases of urinary organs says and epitomizes the present status on the subject of movable kidney so fairly, that I will here call your attention to it:

"Floating or movable kidney is an entity about which the most divergent views have been and still are held. A few years age it was gravely asserted by a distinguished surgeon that movable kidney was a myth; that the literature of the subject was based not on post-mortem experience but on clinical impressions which were fallacious; that the cases of supposed mobile kidney were in reality tumors of the other organs, *e. g.*, the gall-bladder, ovarian cystomata, and diseases of the head of the pancreas; that in the few cases of mobile kidney recorded as having been observed at post-mortem examinations the condition had not been suspected during life; and that a righteous skeptiscism ought to be entertained as to movable kidney being the cause of real suffering." Somewhat similar doubts were suggested, if not actually expressed, at a recent meeting of the Royal Medical and Chirurgical Society, when Mr. Bruce Clarke read a paper on Acute Renal Dislocation. Two of the speakers referred to the rarity of movable kidney in the post mortem room, and one stated that though he had made four thousand post-mortem examinations he could remember but two cases of movable kidney. A third speaker, who has contributed to our knowledge of actual cases of the sort, attached but little importance to the clinical effects of movable kidney, for he said: Women who are the subjects of this condition suffer from a little occasiona dragging pain in the side, but otherwise usually have no symptoms." Many, too, consider that the wearing of a belt is all that is requisit to relieve what little in convenience is caused, that nephrorrhaphy ought not to be performed, and never succeeds; and lately it has been prognosticated that in a few years we must expect to hear of renal calculi having developed upon the sutures used to transfix the kidney in this operation.

On the other hand, the opinion is held that movable kidney is an every day experience in practice, that a very large minority of women are thus constituted, and that it is by no means uncommon in men. I heard of patients being told on no account to submit to nephrorrhaphy—firstly, because it is very dangerous, and, secondly, because it is unnecessary for a condition with which twenty per cent of the human race pass through life. In 1888, Dr. Linder, a German physician, brought out a work on the "Anatomy, Etiology and Diagnosis of Floating Kidney in Women," in which he boldly declares that this condition is the most frequent anomaly in the female, that one woman out of every five or six is the subject of it, and that he is prepared to face the

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most violent opposition in supposition in support of his assertions. Landau, Skorezewsky, Roberts, Newman, and many others might be quoted as authorities on the question of movable kidney. Surely on a matter of fact of this kind it is time that the professional mind arrived at a definite and decisive conclusion. There is abundant evidence existing in support of it, and for the last two hundred years at least, authorities of the highest repute have recorded well-authenticated cases, while the report of the committee of the Pathological Society of London in 1876 ought to have placed the matter beyond despute. (New York *Med. Rec.* July 8, 1893).

From what has been offered on this subject, it is still evident that professional opinion is divided, however strange it may seem to the really conservative and progressive surgeon, yet, do we not find the same difference of opinion when we consider, *when* or *when not* to operate for an appendicitis or, whether or not the complete uterine extripation be held as justifiable, or, if, perhaps, the so called new symphyseotomi has come to stay in place of the Cesarian and craniotomy? It has been said of the doctors that they are inclined to run in a fashion line by fits and starts, may it not contain at least some truth? Yet I am of the decided opinion that the operation of nephrorrhaphy has come to stay. Dr. G. M. Edebohls of New York has recently perfected the the operation of nephrorrhaphy, he overcomes all difficulties by operating with the patient lying flat upon the abdomen, and anterior surface of the chest upon the table, with a specially constructed air cushion under the patient, which crowds the abdominal viscera towards the lumbar regions, carring the wandering kidneys into their normal position. Anesthesia is maintained with ease in this position, and renders the technique a facil one.

In an editorial, New York *Journal of Gynecology and Obstretrics*, July, 1893, which in calling attention to this subject, among other things, says that a brilliant New York City consultant said that movable kidney was so rare that he had as a matter of curiosity requested the pathologist of Bellevue Hospital to make a careful search in all cases for movable kidney and that this inquiry resulted in findind but two or three in a thousand autopsies. It is the old story of Columbus and the egg, the condition was not noted, because it had not been properly sought. It is also much easier to find it intra vitam than post-mortem, for the kidney by force of gravity seeks its nest again, hence it is the easiest thing in the world not to find it in an autopsy examination. We all know that the recent studies on Enteroptosis, by Prof. Meinert of Dresden, Germany, are not a facil condition to demonstrate post-mortem, yet are so, during life.

Prof. Meinert also says that every organ below the diaphragm and even the diaphragm itself may be involved. Since Glenord in France and Meinert of Germany have called the attention of the medical world to the frequent displacement of the transverse colon and stomach, of which only four cases were reported in 1890, we no doubt meet such cases now quite frequently. If thus far only the few have been possessed with a personal skill to recognize this condition I trust all of us will recognize the importance of the subject and become proficient in recognizing these abnormal conditions of displaced viscera and not forgot that a clinical examination, intra vitam, is of more value than to seek it post-mortem.

The Treatment of Ptomain-Poisoning by Means of Subcutaneous Injections of Blood-Serum.—C. F. Darnall, M.D., of Llano, Texas, (*Med. News*) says: On October 19 I was called to see a pair of twin babes, females, ten weeks old, who were being artificially fed, and who had been seized the day before with vomiting and diarrhea. Upon inquiry it was found that these symptoms had set in after partaking of a newly-opened can of condensed milk. The children presented the symptoms of ptomain poisoning, and in the course of four days the weaker one died. With the able assistance of Dr. H. W. Moore, of Llano, I injected subcutaneously four ounces of a normal saline solution into the surviving twin, but without beneficial result. Four ounces of blood were on the fourth day taken from the arm of the father, a stout healthy young man, quickly defibrinated, and two ounces of the serum were injected beneath the skin over the abdomen of the surviving infant. The child was carefully watched, and reaction occurred in about six hours. Improvement grrdually took place, and in six days, upon a diet of thin corn-meal gruel at first, later replaced by fresh milk properly prepared, the child was well. It was placed at the mother's breast at regular intervals, and at the time of this writing, nearly nine weeks after the onset of the illness in the children, the lacteal secretion is fully esblished.

The operation was merely experimental, as the babe was apparently moribund, but it demonstrated what an artificial appropriation of blood will sometimes accomplish. We used a hypodermatic aspirator with a two-way stop-cock and needle, a clean soft-rubber catheter for the supply-pipe, and clean bowls, teacups, and broom-straw. Everything was rendered aseptic with boiling water. Three needle-punctures were made; the serum went into the babe's circulation at once, and no inflammation of the cellular tissue, or skin, or any other untoward symptom appeared.

The query arises: Was the risk increased by using blood from a person so many years older? No time was at hand to select a more suitable donor; he was the child's father, anxious for the operation, and the merits were not discussed.

Many a case comes to every practitioner suitable for subcutaneous injections of blood serum—inanition and anemia, shock, hemorrhages, and collapse in fevers. The operation is simplicity itself, and with very little risk, as compared with intra venous injections and direct transfusions, so that everyone should be prepared to do it at once when indicated.

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Treatment of Hemorrhage by Rectal Infusion.

The favorable results obtained in cases of hemorrhage, even in moribund patients, by intravenous injections of physiological chloride of Sodium solution, have made this form of treatment very popular and it is no doubt the most reliable one in cases where the instruments necessary for the operation are at hand as, for instance, in hospital practice. In cases, however, where there is an urgent indication for an increase of the volume of blood in order to save the patients life and where the proper iustrument cannot be improvised, a rectal infusion of chloride of sodium solution readily suggests itself. The latter has the advantage that the solution need not be sterilized and, moreover, in intravenous injection there is danger of dissolution of red blood capsules in consequence of rapid dilution of the blood, causing hydropic effusions. Dr. Warman, of Kielce, Russia, reports very favorable results in 27 cases of hemorrhage in which rectal infusions were used. One or two liters of water of the ordinary temperature of the sick-room in which a teaspoonful, resp. two, of table salt is dissolved, is slowly allowed to run into the rectum. In cases where the hemorrhage is slight the water may run out again in consequence of an inactivity of the sphincter ani, but when much blood has been lost the absorption is so rapid that this does not occur. The entire absorption of the solution takes place in about four and a half minutes. A short time after the infusion of the solution the patients get a chill, and the greater the hemorrhage, the sooner occurs the chill; the pulse gradually becomes noticeable and the inspirations increase in depth. A cool solution seemed to act more promptly than a warm one and, according to Dr. Warman, on account of a possible influence upon the vasomotor nerve, causing a contraction of the bloodvessels. We cannot agree with this view, since in severe hemorrhage the bloodvessels are already contracted, their lumina adapting themselves to the quantity of blood in the vessels; we are inclined to attribute the favorable action of cold enteroklysis to the stimulation of the heart's action and respiration by reflex irritation.

In cases of hemorrhage from the bowel, as for instance in typhoid fever, the injections may be contraindicated as they might possibly wash away the blood-coagula and again start the bleeding.

State and Municipal Control of Infectious and Contagious Diseases.

John Winters Brannan, M.D., (*Medical Record*), made the following remarks before the Section of Pediatrics of the New York Academy of Medicine: The subject of public health has engaged the attention of law-givers from the earliest ages, but it is only during the present half century that much has been accomplished in the way of effective sanitary legislation. England, profiting by her experience with cholera, was the first nation to recognize the full importance and necessity of public hygiene. The Public Health Act, enacted by Parliament in 1848, was the beginning of a series of measures which have given that country the most perfect sanitary code in the world. It is not to our purpose to review this legislation, but it may be well to note briefly some of the results obtained by it. The average annual death-rate throughout England and Wales, during the twenty years previous to 1870, did not vary greatly from 22.5 per thousand of the population, and it was estimated by Mr. John Simon that one hundred and twenty-five thousand persons died each year of diseases due to defective sanitary conditions. Although Simon's figures were thought by some to be exaggerated, they nevertheless had great weight in persuading Parliament to adopt the reforms recommended by him. During the succeeding twenty years improvements on a large scale were carried out in all the large cities and towns throughout England and Wales, with the result that in 1889 the annual mortality had fallen to only 17.8 per thousand, thus more than justifying the calculations of Simon. The life of a human being has been estimated by Farr to represent a capital of $800. At this valuation the one hundred and twenty-five thousand lives now saved in England are

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equal to a money saving of one hundred millions of dollars annually.

The work accomplished in England has attracted the attention of other European countries, and they have all attempted to imitate her methods, but not all with the same degree of success. Sanitary laws must of necessity restrain the liberty of the individual, and can, therefore, never be thoroughly successful unless their provisions appeal to the intelligence and honest conviction of the public. The fact that in England these laws are made by the people themselves through their representatives in Parliament, aids much in securing their thorough enforcement. In our own country the conditions are equally favorable, except that here the power to enact such laws rests with the State and not the national legislature. The Supreme Court of the United States has decided that all those powers which relate to merely municipal legislation, or what may be called internal police, are not surrendered to the general government; that consequently, in relation to these, the authority of each State is supreme and exclusive within its boundaries. Among these powers are inspection laws, quarantine laws, and health laws of every description. The State having thus all the power necessary for the protection of the health of the people, may delegate to corporations organized for local self-government the power of legislating with regard to such matters. The power remains, however, at all times subject to the control of the State, and may be resumed or cut down by the legislature at its discretion.

Municipal corporations are then to be considered simply as agents of the State, organized for local government. As the preservation of the lives and health of the people is one of the chief purposes of local government, reasonable regulations in relation thereto have always been sustained as being within the authority of these corporations. Municipal regulations must naturally interfere in some degree with the free exercise of private rights, but should not do so unnecessarily. As this so-called police power is conferred for the purposes of self-defense, it must not be carried beyond what is necessary for protection.

In the State of New York and in many other States of the Union, the legislature makes a distinction between the larger and the smaller municipal corporations or cities, generally in the direction of giving larger powers to the former. The powers to make sanitary regulations for New York City are contained in the Consolidation Act, and are conferred directly upon the Health Department. In considering the means employed by the Board of Health to control infections and contagious diseases, I shall limit myself to those measures which bear most directly upon the subject. Pure food, pure water, pure air, and generally good sanitary conditions are of course indispensable and must be striven for at all times, but something more than these is called for to check the spread of contagious disease. The measures I refer to are compulsory notification, isolation, and disinfection. Under the head of isolation I include the power to remove the patient to a special hospital, if he cannot be efficiently isolated at home.

All of these measures are important, though perhaps not to the same degree. A law requiring the notification of infectious diseases is now in force in all the principal cities of this country, as well as in all the capitals of Europe. French physicians have always strenuously opposed the passage of such a law, maintaining that it involves the violation of professional secrecy. The Chambers, nevertheless, enacted the law about one year ago, and its provisions went into effect throughout France on the first of the present month. The opinion of the Paris Academy of Medicine was simply asked as to what disease should be classed as infectious and contagious. There is a wide divergence of opinion and practice on this important point. In Chicago, typhoid fever is not reported, in Philadelphia and London measles is not deemed worthy of notice, in other places whooping-cough is excepted, in others erysipelas.

This lack of agreement is probably due to the fact that there is still some confusion as to the exact significance of the words infectious and contagious. The old meanings no longer fit our present more definite conceptions of these terms, based upon the teachings of bacteriology, and yet it is difficult to use the old words without calling to mind the ideas formerly connected with them.

Dr. Prudden defines an infectious disease as one which is caused by the invasion and reproduction within the body of pathogenic micro organisms. According to the same authority, an infectious disease is contagious when the micro organism which causes it can, under the ordinary conditions of life and by whatever means, be conveyed from the sick to the well in a condition capable of lighting up the disease anew. Dr. Prudden, however, insists upon the importance of recognizing the great difference in the degree of contagiousness which different diseases may possess.

These definitions of "infectious" and "contagious" are generally accepted by bacteriologists at the present day. As thus defined, each term has its own special field of application. An infectious disease is the morbid condition produced within the body by the entrance of pathogenic micro-organisms. There is no limitation as to the source of the infection, nor is the possible communicability of the disease suggested. The term infectious does not look beyond the individual already infected. Contagious, on the other hand, has gained what infectious has lost. It now includes all modes of conveyance of infectious disease. It is no longer a question of the manner of transmission, whether by direct contact or through the air or by other carriers of infection. If an infectious disease is communicable to others by any means whatever, it is also contagious. Contagion presupposes infection, therefore all contagious diseases are infectious, but not all infectious diseases are contagious.

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It is surely a great gain to have thus simplified the meaning of terms, but it is unfortunate that in simplifying them we have also changed them. To us, as medical men, it perhaps does not matter that we have taken such diseases as typhoid fever, cholera, and tuberculosis, formerly called simply infectious diseases, and placed them side by side with small pox and scarlet fever, diseases known to all as directly contagious by simple diffusion through the air. We know that there are degrees of contagiousness, using the word in its new and broader sense. But it is otherwise with our patients, who have not followed the steps by which we have arrived at our present understanding of infection and contagion.

I have discussed this question of nomenclature somewhat at length because it is especially important at this juncture that the public should understand what is meant by the term contagious disease." Dr. Biggs, the Pathologist of the New York Board of Health, has re cently made an official report to that body, in which he advises that physicians practicing in this city should be requested to notify the Board of all cases of pulmonary tuberculosis coming under their observation. I believe that the majority of physicians in New York will agree entirely with the spirit of Dr. Bigg's recommendation and will aid the Board of Health in carrying it out. But I also believe that there is a considerable proportion of physicians in the city who will be less willing to report the names of their private patients who are suffering with tuberculosis, if this affection is to be termed a contagious disease. They know the alarm that enters a household when a disease is declared contagious, associated as it has been in the past with enforced isolation of the patient. I would therefore suggest the use of the word "communicable" in place of "contagious," and not only for tuberculosis, but for all diseases of this class. Communicable expresses exactly what we mean and no more, whereas, contagious produces a false impression, due to the former meaning of the word.

If the term communicable is adopted to include all those infectious diseases which are capable of transmission in any mode whatever, then contagious may still be retained, but restricted to its old use. It would then include, as a sub class of communicable diseases, such diseases as the exanthemata, whooping-cough, and mumps, which are conveyed by simyle contact, direct or indirect.

Lest some may think that this change of nomenclature is impracticable, I will call attention to the fact that the State Board of Health of Michigan has for years used the term "dangerous communicable diseases" for all diseases requiring official regulation in the interests of the public health. I do not know what reasoning or experience led that Board to the selection of this term, but it has served it well in the action taken by it some three months ago, when it resolved that hereafter, tuberculosis should be included in the official list of "Diseases dangerous to the public health," requiring notice by house-holders and physicians to the local health officer as soon as such a disease is recognized. In this resolution the question of isolation of the patient is not mentioned. Its purpose is to secure to the health authorities knowledge of the location of each case of the disease, with the view of placing in the hands of the patient and his friends information which will enable them to prevent its further spread. Leaflets giving this information and entitled, "Restriction and Prevention of Tubersulosis," are distributed throughout the State by the Health Board. In these leaflets the disease is called communicable, and the mode of communication is clearly stated.

Although Michigan is the only State which has taken official action in the way of restricting tuberculosis, other parts of the country are also awake to its necessity. Two circulars, similar to the one I have mentioned, are published and distributed gratuitously, one by the Health Department of Providence, the other by the Pennsylvania Society for the Prevention of Tuberculosis. The language of both circulars is excellent, except that in both the disease is termed "contagious."

As we are about to follow the decided step taken by Michigan, let us in like manner call tuberculosis by its right name, a communicable disease.

I shall say but little regarding the other measures of restricting infectious disease, as they are to be fully discussed this evening by others. In the case of a purely contagious disease, such as scarlet fever, notification of the disease would of course be of little value unless it were followed by prompt isolation of the patient and infection of the premises at the termination of the illness. Under the conditions which prevail in New York it is seldom possible to secure efficient isolation of the patient at home. It is, therefore, very unfortunate that there exists in this city such a prejudice against removal of the patient to a contagious disease hospital. In London there are sometimes as many as three or four thousand cases of scarlet fever in the Metropolitan Asylums Board hospitals at one time. In that city even well to do people seek admittance to the fever hospitals, and many are turned away for lack of room. In New York, during the whole of the year 1890, only 324 patients were taken to the Willard Parker Hospital, a number too small to have much effect in restricting the spread of scarlet fever in the city. In Boston, also, it has been found that the disease prevails epidemically, or to only a slight extent, without much regard to the restrictive measures of the health authorities. But it is the intention, in both New York and Boston, to forcibly remove many more cases to the isolating hospitals as soon as the new buildings, now under construction, are completed.

In closing, I will again instance the experience of Michigan in order to show what can be accomplished under favorable conditions by efficient isolation combined with disinfection. During the year 1889 there were 417 outbreaks of scarlet fever in that State. In 72 of these outbreaks, isolation and disinfection were

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both neglected, and the number of cases per outbreak was 16.78. In 52 outbreaks, both isolation and disinfection were strictly enforced, with the result of limiting the number of cases to but 2.69 per outbreak. In many outbreaks one restrictive measure was enforced and the other neglected. In all such instances the spread of the disease was checked somewhat, but never to the same extent as when both isolation and disinfection were enforced.

The Etiology of Hemoptysis.

Professor Germain See, of Paris, France, writes upon this subject in the *Physician and Surgeon* as follows: Hemorrage from the mucous membrane of the lungs, which is so very interesting as regards its treatment, seems to be less so when its cause is examined. This is a great error. Sometimes, of course, its etiology is quite evident when we find certain signs that prove the existence of pulmonary tuberculosis, but outside of the danger itself that may come from the hemorrhage, which by the way, has been much exaggerated, we should endeavor to find out if this bleeding will continue, if it will return again, or be followed by serious consequences or not, or if it is simply accidental.

Laennec was the first to show that hemoptsis may be only a symptom of tuberculosis or pulmonary apoplexy. Graves divided it into two classes, according as it came from the bronchial or pulmonary arteries. In the present state of our knowledge let us review the etiological distinctions on which the whole interest of the diagnosis depends.

Hemoptysis has been divided into essential and symptomatic. By the first we understand those that do not depend on any disease of the lungs or other organs. These are rare, and their causes are quite well known. They depend on traumatism, such as the irritant action of certain forms of gas when respired, and on intense cold which brings about a high tension in the pulmonary vessels. In this class has been ranged supplementary hemoptysis which is seen only in women. But all these cases are quite easy to diagnose and establish the etiology, so they need not detain us.

Among the symptomatic varieties the most important is that seen in pulmonary tuberculosis. It may be noticed at any period of the disease, but is most frequent at the onset. A person apparently in perfect health, but who has had a little dry cough now and then, is suddenly taken with hemoptysis. Sometimes it is only a sanguinous expectoration mixed with salivary sputum; at other times the patient is awakened by finding his mouth full of blood and red marks are on his pillow. We must not be in a hurry to share his fears, because it may be only a sanguinolent exspuition which must not be confounded with expectoration of blood, for this exspuition is sometimes simply the rejection of matters accumulated in the pharynx, or naso-pharynx, or even in the mouth. An examination of the buccal cavity shows that exspuition is more abundant during sleep, owing to unconscious efforts we make then by a sort of suction. Real hemoptysis takes a patient suddenly, without any definite cause, unless it be a cold bath or some sudden effort. With a slight cough they expectorate clear red blood, which is mostly liquid and frothy. This expectoration, which is at first abundant, continues for some time, even several days. The blood, which is at first red, then becomes darker by having remained longer in the bronchial tubes. Given these conditions, the fate of the patient remains variable according to the case. Sometimes this sympton may be the only manifestation of disease, as it may not continue, owing to the fibrous transformation of the tubercles. But this is not always so, as this hemoptysis may be the first stage of phthisis, which, however, may not come on for a long time afterward, even when the first attack of hemoptysis has almost been forgotten. Then there are cases where the evolution of the tubercle bacilli may go on at once.

The relatively benign character of hemoptysis makes its diagnosis as to the gravity of the case difficult. If auscultation is practiced soon after the attack it can give an idea of the seat of the hemorrhage in the lungs, but can tell us nothing of its nature. The microscopical examination of the sputum which alone can decide the question may not be possible for some time or may give false results. In most cases the bacilli are not abundant at this stage of the disease, but this must not lead us to think that it does not exist. In all cases of hemoptysis that cannot be explained by some heart lesion, or renal affection, or again by some general malady, we should suspect tuberculosis. The frequent absence of bacilli in these expectorations and in those of harmless sorts of hemoptysis, has led Huchard and others to search for the etiology in arthritism. But diathesis cannot be admitted in hemoptysis among those who do not appear to be tubercular, until after the careful examination of the chest and sputum for bacilli, and the fact that you do not find them in such blood does not prove that the case is not one of commencing tuberculosis. As we stated before, it is not usual to find Koch's bacillus in this blood, and it is known that the blood of a confirmed consumptive does not contain bacilli. The absence of physical signs over the thorax is not a proof that tuberculosis does not exist. A case of hemoptysis recorded by Huchard, where no lesions of the lungs was found at the autopsy, does not prove that there was not some vascular lesion.

Sir Andrew Clark thinks that hemoptysis seen in aged persons comes from arthritism and relates the details of two autopsies to prove that no lesion was found in the lungs, nor any cardiac alteration. We may, however, ask if the fact that these patients had rheumatic antecedents is enough to declare this as a cause of the hemoptysis seen? Duclos (of Tours) and other authors have reported a number of cases of patients who had hemoptysis and arterio sclerosis. These writers had been struck by seeing quite a number of cases of hemoptysis in apparently robust people who

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were arthritic. On following up these patients it was seen that after a few years they were attacked, some of them by rheumatism, others by arterio sclerosis, and again others by nephritis. From these observations, we think that a large number of such cases, when there has been hemoptysis that cannot be explained by any chest lesion, are due to some kidney or vascular disease.

Hemoptysis that comes on in maladies of the circulatory apparatus are the next most frequent in order. They may be met at the onset of mitral insufficiency. Peter, indeed, gives it as an initial symptom in such troubles. I have more often seen simple epistaxis in these cases, while I consider hemoptysis to be rare in other heart cases at first. These hemorrhages are quite different from those seen later in other cardiac diseases as regards their pathogenesis. It was formerly admitted that they were caused by the increase of pressure in the pulmonary vessels by the action of an hypertrophied heart. But it is not enough to have a stasis, we must have an alteration of the vessels themselves. They, in fact, have lost their elasticity and contractility and end by having partial dilations. The hemorrhages that then take place into the cellular tissue, cause a lesion of a hard brown appearance and the tissue takes on a yellow-red color, becomes heavy and friable as seen in autopsies.

It is much more common to find that hemoptysis seen in heart cases, is caused by infarcts or embolisms. As a rule the embolus causes a hemorragic infarct arrising from a thrombosis of the right heart when it no longer can effect compensation. In endocarditis of an infectious nature, the pulmonary embolus causes a metastatic abscess, or else pulmonary gangrene. In ordinary cases the infarct will pass on only to be found at the autopsy. These patients will have a cough of a painful nature that is of considerable diagnostic value when they have not had bronchitis; with this is a pain or a stich in the side, and twenty-four or forty-eight hours afterward hemoptysis sets in which may last for six to eight days. The diagnosis of hemorrage from infarctus may be made then from fainting, dyspnea, expectoration of blood, stitch in side, and physical signs that are found in a person who has had heart disease. It is rarely accompanied by considerable hemorrhage.

Hemoptysis in women must be studied apart. They may be divided into nervous, supplementary or complementary. Pulmonary hemorrhages during the sexual period of a woman's life are rarely independent of a cardiac or pulmonary affection. The relation of these hemorrhages to the menstrual function can be established in two ways: In the first, the menstrual deviation can be produced by pulmonary hemorrhage without any disease of the lungs. These losses of blood from the uterus and the lungs finish by causing the physical signs and nervous trouble of post-hemorrhagic anemia. During the interval of the menses the general health remains good and nothing can be detected in the chest showing tuberculosis. These facts have caused us all to accept this form of hemoptysis as functional in nature. In the second case the blood comes only from the lungs, and none from the uterus, and here this determination of the blood to the lungs may cause tuberculosis at last. We must not forget that both of these cases may exist with phthisis. There are other cases of hemoptysis that come during pregnancy. These are for the most part attached to some heart disease developed before the pregnancy. Finally, there are cases of hemoptysis seen at the menopause, which come on every four weeks. There is also a category of hemoptysis that is seen in very nervous women as has been well studied by Dr. Lancereaux. These persons are found spitting blood between the menses, which are regular in quantity. We are not, however, justified in making this diagnosis as one of nervous origin until a very careful examination has been made of the chest and sputum. They may, of course, become dangerous if they continue and are very abundant.

The Foramen Cecum.

Professor Holl (*Verhandlungen der Anatomischen Gesellschaft; Boston Med. and Surg. Jour.*) points out that the statements in anatomies concerning this little hole are not all the same. The general impression concerning it is that it is sometimes merely a blind pit, in other cases a communication between the cranial and nasal cavities transmitting a vein. The last impression according to Holl, is quite a mistake. In the adult it is a closed canal completely filled by a process of dura mater. In the macerated skull of a young person it is truly a canal, but it transmits no vein, for skulls which have not been macerated show that it is closed below by cartilage; the process of the dura mater which passes through it runs for a short distance between the cartilage and the nasal bones. In an embryo of a newborn child this band runs as a small thread to the tip of the nose. The bone which grows round the upper part of this is the nasal spine of the adult frontal bone. This spine is very important; it runs as a pin between the ethmoid, the nasal bones and the median prominence of the frontal. This has, moreover, a pathological interest. If the the nasal spine does not develop, this place is closed only by membrane, so that an encephalocele may occur.

The Lymphatics of the Anus.

Dr. Quenu (*Jour. de l'Anat. et de la Physiol.; Boston Med. and Surg. Jour.*) finds that the lymphatics of the anus empty into the glands near the termination of the long saphenous vein, most often somewhat above that level, but not rarely below it. The lymphatics of the anus are connected with those of the rectum along the columns of Morgagni. The course of the rectal lymphatics was studied only on children, which seems unfortunate. The author wished to ascertain whether they emptied only into the glands of the meso-rectum, or whether they had any connection with glands at the sides of the pelvis. He found that the lymphatics of

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these parts may be divided into three sets: those of the anus already mentioned inferior to the *levator ani*, those just above that muscle running to the lateral glands in the neighborhood of the internal iliac or of its chief branches, and finally, superior ones running to the glands along the superior hemorrhoidal artery.

Eleventh International Medical Congress.—A letter directed to the undersigned by the Secretary-General of the Eleventh International Medical Congress and dated December 19, 1893, contains the following communications:

"American members will pay on the English, French, and Italian railways single fares for double journeys, and will obtain a reduction of twenty per cent on fares for Italian round-trip tickets.

"The documents required for their identification will be sent to you in January, and Americans intending to visit the Congress will have to apply to you for them.

"Full particulars concerning the journeys will accompany the documents.

"Messrs. Thos. Cook and Son, London, Paris, Rome, and Naples, should be applied to for accommodation and for tickets for the excursions at Rome, Naples, and to Sicily. Such excursions will be arranged at Rome under the guidance of Mr. Forbes, member of several scientific societies and correspondent of the "Times"—for Naples, three days, including Vesuvius, Pompey, Capri, Sorrento, Castellamare, Bajae, etc.—for Sicily, ten days from Naples, including Messina, Taormina, Catania, Girgenti, Siracusa, Palermo, and return to Naples.

"The fares for members of the Congress will be considerably reduced and comprise hotel accommodations, carriages, guides, boats etc.—about 70 frcs. each, for the three days 265 frcs. for the ten days.

"Full particulars concerning these excursions will be contained in a leaflet to be added to the instructions and documents for the journey."

From former communications the following are herewith quoted: The members' fee is five dollars, that of their wives or adult relations two dollars each. Checks or money orders may be sent to Prof. L. Pagliani, Rome, Italy. Credentials have been promised in the near future. When they arrive (none were received last year), they may be too late for many who have started or are about to start. The undersigned, who is not informed of the cause of delay, proposed to supply in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. The North Garman Lloyd has promised to recognize them. It it suggested, besides, that a passport may increase the traveler's facilities.

Only the North German Lloyd (22 Bowling Green) and the Compagnie Generale Transatlantique (3 Bowling Green) have thought fit to grant any reduction to Congressists.

The reductions on Italian railways are available from March 1, to April 30.

A. JACOBI, M.D.,
January 11, 1894. 110 W. 34th Street, New York.

ABSTRACTS

MEDICINE.

Puerperal Insanity a Toxemia.—Dr. Menzies, of the Rainhill Asylum at Liverpool (*Amer. Jour. of Insanity*), presents an interesting study of a hundred and forty cases of puerperal insanity. Of these, thirty cases were insanity of pregnancy, sixty-four insanity of parturition, and forty-six insanity of lactation. The author says that these various periods merge so imperceptibly into one another that any division must be to a certain extent arbitrary. He applies the term insanity of pregnancy to cases in which mental alienation was noted before the birth of the last child, and all that began two months after parturition he classifies an insanity of lactation.

While it is generally considered that puerperal insanity is apt to have a sudden onset, fifty-four per cent. of his cases presented prodromal symptoms. In all forms depression is the first manifestation, as a rule, in the form of sadness, distrust, apprehension, or religious awe. This period of depression may be of short duration or persist for months. States of depression are found in fifty three per cent of all pregnancy cases, in thirty-four per cent of parturitional cases, and in seventy-four per cent of lactational cases.

PREGNANCY TYPES.—In nearly half the cases the patient imagines she is going to be killed or has committed the unpardonable sin, or else she combines the two ideas. In this type the delusion as to disloyalty on the part of the husband exists in but a small percentage. There are no distinctive mental features in this form by which we may distinguish it from other cases of melancholia. A physical examination is necessary. Mania of pregnancy, however, has distinct peculiarities, but it is rare and only eight of the author's cases presented this form The chief diagnosis points of the insanity of pregnancy are.

1. Silent reserve and unsociability.
2. Strongly marked delusions of identity.
3. Religious or erotic impulse.
4. Rational performance of routine duties if the patient is left to her own resources.

Symptoms rarely present themselves before the fourth month of pregnancy, and most commonly develop in the fourth or fifth month.

PUERPERAL AND PARTURITIONAL TYPES.—Delirous excitement is most usual, occurring in forty-six per cent of the cases. Sucidal and homicidal tendencies are not uncommon. Among the delusions of puerperal delirium the most frequent is that of fear of impending violent death; but false identity, religious ideas, and hallucinations of sight and hearing are common. Acute delirious

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mania was present in but two of the author's cases. The tendency to relapse after apparent improvement or convalescence is great, and relapse is often quite sudden. Eighteen per cent of the cases developed in the first week after confinement, fifteen per cent in the second week, forty per cent in the first month, and fourteen per cent in the second month.

Lactational Types.—The same symptoms occur here as in the other forms, but the order of frequency of the types is different. Thus twenty-four per cent show melancholic delirium, fifty per cent quiet, depressed states, twelve per cent mania, and fourteen per cent maniacal delirium.

Any given case of puerpeal insanity, of whatever type, may pass through six stages:

1. Prodromal disturbance.
2. Early delirium.
3. Melancholia.
4. Stupor.
5. Mania.
6. Dementia.

Many patients pass through all the first five and yet recover, but, generally speaking, the fewer the better the prognosis.

As regards the recovery rate, it is high in insanity of the puerperal period, as is generally conceded. Seventy-five per cent of the author's patients whose cases were of the parturitional type recovered, but only 43 3 per cent of the pregnancy type, and 56.5 per cent of the lactational type. In the cases of recovery the duration of treatment until recovery was as follows: Eighteen recovered in two months, twenty-one in four months, sixteen in six months, seventeen in a year, and twelve in over a year.

Twenty-one patients died. Of these, ten had general paresis, five insanity of the parturitional type, and six insanity of the lactational type. Of the eleven, six had phthisis, one general pyemia one *Schluckpneumonie*, one coma and convulsions, one exhaustion and diarrhea, and one acute dilirious mania.

Some valuable facts are brought out by the author in regard to certain questions often referred to in connection with insanity connected with childbearing.

Thus, in seventeen of the one hundred and forty cases the mother evinced a feeling of hostility to the child, but in only two was there an attempt to kill it; fourteen patients attempted suicide before their admission to the asylum, and thirty one patients showed erotic tendencies. Erotism plays an important part in the early puerperal period. It generally develops after confinement, but sometimes before it. Indecent overtures and attempts at exposure are made, and in delirious conditions filthy jokes and grossly vulgar details of private life are given.

As to the influence of the unmarried state upon the production of puerperal insanity, only ten of his patients were single women, and of these, seven had led dissolute lives previously. The author is opposed to the idea that the shame of exposure and the worry incident to illegitimate pregnancy are causes of puerperal insanity.

Ten cases in the series of a hundred and forty were cases of general paresis, and the author is doubtful as to whether the connection between pregnancy and general paresis should be considered purely accidental.

Another interesting fact is the course of labor in insanity. It is generally precipitate. The rapidity of delivery is very remarkable.

Probably the most valuable part of this paper is the discussion of the pathology of puerperal mania. Dr. Menzies advocates the very sensible theory that the cause is self-intoxication. The maternal excretion is overtaxed by the considerable excretion of waste products from the fetus, accounting possibly for toxemia in the insanity of pregnancy. Delivery leaves the lymphatics choked with albuminous fluids of low vitality, which, if not excreted quickly, may change and poison the blood, in this way giving rise to the insanity of parturition. The drain of albumin in lactation possibly alters the chemical composition of the blood, and may thus give rise to the lactational type of insanity. These blood poisons engender the psychic symptoms naturally by their effects upon the intellectual substrata. In puerperal insanity a temperature of 101° F. is not at all uncommon, even in the lactational form. Cessation of the lochia invariably aggravates the mental condition, and involution is always retarded. There are waxy pallor, sallow skin, quick production of anemia and wasting, and great destruction of hemoglobin, all pointing to a blood condition and not to a cerebro cortical disturbance. The universal benefit derived from a purge, the recognized objection to a drug like opium, which paralyzes osmonis, and the advantages of uterine douches, show that asylum physicians act up to the toxemic theory, whether they admit it or not.

As regards treatment, the author believes in hydrotherapy, purging, good feeding, stimulants, rarely a hypnotic (either chloral or paraldehyde), rest in bed, hot uterine douches, and stopping the secretion of milk, according to the case and its condition. Intestinal antiseptic he believes to be of little or no use. If they are to be employed, let it be creasotal in doses of from half a drachm to a drachm thrice daily. Creolin offers some advantages possibly, but is not palatable.—New York *Medical Journal.*

Etiology of Incontinence of Urine in Children.—In a paper read before the American Pediatric Society, (*Can. Pract.*) Mr. B. K. Rachford considers the causation of urinary incontinence, and believes that the three great factors in its production are:

1. Irritable and unsteady nerve centres.
2. Anemia, with consequent malnutrition.
3. Reflex stimulation of certain nerve centres in the lumbar cord.

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In the majority of cases these three factors exist, but

they do not exist in all. For example, we may have incontinence without anemia, and anemia without incontinence. We may also have incontinence without apparent reflex irritation, and reflex irritation without incontinence. It is not sufficient, therefore, to say that adherent prepuce, vesical irritation, or some other reflex cause, is the cause of incontinence of urine; neither is it sufficient to say that anemia with malnutrition is the cause of the condition; nor can we say that neurotic inheritance is, as a rule, sufficient to produce incontinence, since a great majority of nervous children do not suffer in this way. A rational enquiry, therefore, into the etiology of this condition must consider not only how each of this tripod of factors may act in producing incontinence of urine, but it must also inquire into the interdependence and relationship of these factors. The author, in the course of his paper, gives the following lucid description of the mechanism of micturition:

"That one may understand the importance and relationship of the above-named factors in producing incontinence, it will be necessary to keep in mind the mechanism of micturition. One must remember that the longitudinal and circular muscular fibers of the bladder, which by their contraction empty the bladder, are innervated by sensory and motor nerves from the lumbar region of the cord, and that the external sphincter in the prostatic portion of the urethra, which by its contraction prevents the escape of urine from the bladder, is also innervated by sensory and motor nerves from the lumbar cord. Dr. Von Zeissl's recent researches on the innervation of the bladder gives us better understanding of this subject. He found that the 'erector nerve' was not only the motor nerve of the muscular coat of the bladder, but that it was the inhibitory nerve of the sphincter vesicæ, and that the 'hypogastric nerves' carry motor fibres to the sphincter vesicæ and inhibitory fibres to the muscular coat of the bladder itself. These researches of Von Zeissl make plain the manner in which reflex causes may act in starting or checking the flow of the urine. For example, a reflex carried to the proper centre in the lumbar cord would, through the motor fibres of the erector nerve, contract the muscular coat of the bladder, and through the inhibitory fibres of the same nerve relax the sphincter vesicæ, and in this manner allow the urine which is being expelled by the contracting bladder to pass without hindrance through the relaxed sphincter vesicæ. This is indeed a simple and beautiful nervous mechanism that must be understood if we understand the etiology of incontinence of urine. But another important fact must be also remembered in this connection, and that is that the act of urination is in part under the control of the will. We will to urinate or not to urinate, and the message passes down to the centres in the lumbar cord where, by the mechanism just described, the reflex is completed."

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MEDICAL SOCIETIES

New York Academy of Medicine.

We are indebted for this report of the meetings of December 21, 1893, and January 4, 1894, to the *Medical Record:*

D. B. St. John Roosa, M.D., President, in the chair.

Committee on Bureau of Nurses.

In accord with a resolution passed at the last meeting, the President appointed the following committee on Bureau of Nurses: Drs. Landon Carter Gray, W. E. Bullard, Horace T. Hanks, R. Van Santvoord, S. S. Burt.

Nomination for Treasurer of Board of Trustees.

Dr. William F. Cushman, the present incumbent, was the only candidate nominated for this office.

Section Assignments.

The President reminded the members that assignments to sections were made by the Academy, and that those who wished to be identified with some particular section should make their wish known to the officers of the Academy. When members were assigned to a particular section it was expected that they would take interest in that section. It was hoped that those who were informed of this provision of the Academy would make it known to others, that they might be assigned to their proper section.

The President also announced that the subject for discussion at the next meeting was appendicitis, and that Dr. Albert Vander Veer, of Albany, would read the paper.

The following were appointed tellers, to act at the election of officers in January: Drs. S. T. Armstrong, C. G. Currier, and W. E. Bullard.

Asthenopia not Dependent Upon Errors of Refraction nor Insufficiency of the Ocular Muscles.

Dr. Thomas R. Pooley read the paper. The view, which seemed to be that of some oculists, that all cases of painful vision were due to some error of refraction or muscular insufficiency, struck the author as an absurd one. Every person had painful vision at times, and it was the object of the paper to discuss those cases which were not dependent upon errors of refraction or muscular insufficiency. Among the causes, local troubles were first discussed; afterward those which acted through disturbance of the general nervous system.

The act of vision constituted only a part of a series of phenomena linked with the nervous system, and the integrity of, one might say, the entire nervous system was necessary in order that all its functions might act harmoniously and painlessly. Vision would not withhold an expression of resentment if not properly used. The

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first violation related to over-use of the eyes. Probably all had some time experienced the asthenopia of near vision. At first, while vision was distinct, all went along well, but after a while the objective point grew indistinct and blurred, a fact due to overstrain of accommodation with a failure to properly localize the object. At first a short period of rest might suffice to renew distinct vision, but with repeated violations vision became more painful, and one might finally be compelled to abandon his usual occupation. Such cases of painful vision were due to exhaustion of the ciliary muscle, and were called accommodative asthenopia, in contradistinction to muscular and other forms of asthenopia. The symptoms could not be overcome by glasses. An illustrative case was that of a young man who was a student of technology in Stevens Institute, who studied night as well as day, until he was obliged to quit on account of indistinct and blurred vision and frontal headache. One eye had been lost from accident. Examination showed in the remaining eye normal vision, no muscular insufficiency, no inherent defect in the eye. It was true this was an extreme case, and was aggravated perhaps by the fact of having but one eye for use; yet asthenopia in some degree from over use of the eyes was not uncommon.

The source of illumination also had to do with asthenopia, and while the arc electric light was the more common cause, yet cases had been reported in which the incandescent light was at fault.

Another source of asthenopia was the toxic effects of certain drugs, among which the author mentioned hyoscyamin given by neurologists, also alcohol and tobacco.

Another cause was diseases of the nose, first mentioned in a paper by Dr. Noyes, in 1867, and later in a paper by Dr. Gruening, from which the author quoted freely. The close relation between the nerves of the eyes and of the nose was clearly shown by the results of slight irritation of either, resulting in lachrymation photophobia, or sneezing, etc. Cases had been reported by different observers in which asthenopia had persisted until some nasal trouble had been cured. A practical guide to the possible efficacy of nasal treatment was to be had in the use of cocaine. Dr. Pooley's experience had corroborated what Dr. Gruening had written on this subject. Dr. Myles had also found asthenopia and other eye symptoms result from nasal disease, such as hypertrophy of the turbinated bodies and conditions causing pressure and irritation of the nerves. One of the most remarkable cases in this line was that published in the *Medical Record*, in 1892, by Dr. A. S. Kibbe.

Asthenopia from irritation in other parts of the body more distant from the eyes than was the nose,then engaged the author's attention. Among these were irritation of the fifth pair of cranial nerves by carious teeth, and the influence of irritation in the genital organs. One of the most common of all causes of asthenopia in the author's experience, was uterine disease as was shown in a paper which he had published in 1886. A later one by Morse, of Ohio, was in line with his own experience; and the late Dr. James B. Hunter found lacerations of the cervix and other uterine affections the only apparent cause of headache, asthenopia, and especially of pain in the top of the head. His reason for believing these symptoms sympathetic was that he had found them disappear after relieving the uterine disease. Dr. Pooley added other quotations which tended to show that asthenopia might be one of the protean symptoms accompanying disordered menstruation.

As suggestive of a longer list of possible causes for asthenopia, tbe author named hysteria, masturbation, sexual indulgence, scarlet fever, and other exhausting diseases or habits. A very valuable paper upon those cases which fell under the head neurasthenic asthenopia had been written by Hilbrandt, a German author, who had given credit to an American, the late Dr. George M. Beard. The treatment had to be directed largely to the general condition, and included the so-called rest cure and hygiene.

Dr. Pooley summarized the points in his paper as follows:

1. Asthenopia may exist quite independently of errors of refraction or affections of the eye muscles.
2. Asthenopia may be due to toxic causes.
3. To excessive use of the eyes.
4. To various reflex causes.
5. A large number of cases are due to irritability and exhaustion of the nervous system embraced under the term neurasthenia.
6. Rational treatment consists in arriving at the cause of which the asthenopia may be considered the symptom, and correction of the same, together with rest and systematic exercise of the eyes and use of feebly focusing glasses where there is paresis of accommodation. It is the tendency of modern ophthalmology to seek a local cause for all disturbances of vision, and to use local treatment exclusively, but this has not met with the unqualified approbation of those who seek to be physicians as well at ophthalmologists.

In conclusion, he impressed the need of a wide and thorough knowledge of all the laws which governed physiology, pathology, and therapeutics, and a wise interpretation of their relation to the special diseases which oculists were called upon to treat.

The Paper Endorsed.

The discussion was participated in by Drs. Gruening, C. S. Bull, Sayre, Page, Goffe, Myles, and the President, all of whom endorsed the views expressed in the paper.

Dr. Gruening said the paper was exceediagly timely. The oculist bore the same relation to the great body of medical men that the eye bore to the human frame. A doctor who limited his view to the immediate diseases of the eye was unworthy of his profession. It was such narrowness that had led many to lose sight of accommodative asthenopia which had been dwelt upon in the

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paper. Often persons recovering from some acute illness, as one of the fevers, would spend hours in bed reading a novel, straining the ciliary muscle in their exhausted state beyond the power of endurance. Next to the heart, this muscle was more constantly in action than any muscle in the body. Women who suffered most from asthenopia during the menstrual period, were likely to belong to that indolent class who would spend day and night in the recumbent posture, reading light literature, thus exhausting the power of the ciliary muscle and bringing on headache and painful vision.

Dr. Bull also thought the paper a very timely one. The woods were full of young oculists who were nothing else, who knew nothing else. Asthenopia without apparent ocular defects was, according to his observation, frequently the first sign of commencing glaucoma. He mentioned it because he had not seen it referred to in print as a possible early symptom of glaucoma. Another point dwelt upon by him was the injurious effect of long continued use of the eyes under the electric light, and he included not only the arc light but also the incandescent. Not a week passed but what he saw one or two most aggravated cases of asthenopia without other apparent cause. He could also recall six or eight cases of diabetes in which the class of symptoms described in the paper under the head asthenopia had preceded the appearance of sugar in the urine. He, too, had seen many cases of asthenopia, especially in women, connected with the condition called neurasthenia. In these patients it was common to find a faulty state of the circulation, both general and also local, in the eye, as shown under the ophthalmoscope. The calibre of the vessels, particularly of the veins, would be seen to increase and diminish during the examination. It was when the veins were fullest that the patients appeared to suffer most from asthenopia.

The conclusion to which he had come was that there were cases of painful vision in which the most careful and scientific investigation would fail to reveal any defect in the eye, in which, contrary to his former belief there was positively no error of refraction, and in which treatment had to be directed to the patient's general condition.

Reflex Asthenopia.

Dr. Reginald A. Sayre had seen several cases in his own and his father's practice, in which asthenopia had disappeared after removal of some distant source of irritation, especially removal of phimosis by circumcision. He was aware, however, that neurologists were disposed to depreciate these cases.

A Case of Diabetic Asthenopia.

Dr. R. C. M. Page spoke for general medicine, referring during the course of his remarks to a case of aggravated asthenopia, treated unsuccessfully for a long time by a distinguished ophthalmologist in a neighboring city, who, however, had directed his attention solely to the eyes. The patient then came to New York and asked Dr. Page to refer him to an oculist in this city. Before doing so he examined his urine and found it loaded with sugar. Thus it proved to be a case of asthenopia due to muscular paresis caused by diabetes. It disappeared under appropriate treatment.

The Uterus and Asthenopia.

Dr. J. R. Goffe was requested to speak for the gynecologists. He mentioned a case of painful vision in a woman whose oculist was very much frightened when he examined her eyes, fearing some grave cerebral trouble. A neurologist was consulted who agreed with the bad prognosis, although at that time the patient had shown no mental disturbance. By accident she fell into Dr. Goffe's hands, who found the uterus bound down by adhesions, and appropriate treatment directed to this condition also cleared up the objective and subjective eye-symptoms. The neurologist and oculist said they had never before heard of treatment directed to the uterus causing disappearance of a brain tumor. In another case eye symptoms disappeared presumably with the cessation of masturbation.

The Nose and Asthenopia.

Dr. Myles said he often met with asthenopia in patients who consulted him for nasal trouble, and on referring them to an oculist they were often sent back with the statement that nothing abnormal had been discovered in the eyes. While pressure on the nerves by tumors and hypertrophic tissue in the nasal passages might produce ocular symptoms, still many cases of nasal hypertrophy were operated upon unnecessarily, because belonging to the class in which this condition did not cause symptoms.

Ignorance and Humiliating Practice.

The president was quite in unison with the spirit of the paper, as was well known by those who were at all acquainted with his writings on the subject of asthenopia. Ignorance of the causes of this condition had often led to practice most humiliating to this special branch of medicine. One of the earliest symptoms in some cases of locomotor ataxia was inability to use the eyes, yet someone could be found to undertake to remedy such ocular defect by an operation. If men would only acquaint themselves with what Donders meant by asthenopia, they would not disgrace ophthalmology by trying to make of every eye what they conceived to be an ideal optical instrument. The ideal condition only existed on the blackboard or in the text-books. He would not repeat on this occasion what he had before published, and meant further to elaborate, regarding muscular anomalies, neurotic asthenopa, etc.

Dr. Pooley, in closing the discussion, said he had been wondering what condition of the eye had been revealed by the ophthalmoscope, which should have led a neurologist and ophthalmologist to positively diagnose brain tumor when vision was normal though painful. He suspected it was nothing but hyperemia of the optic

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nerve and retina, which was to be seen in extreme cases of asthenopia, without any cerebral lesion whatever. Yet it seemed to be a common mistake for neurologists to look upon hyperemia of the optic nerve and retina as necessarily indicating a cerebral process.

Observation Upon Abdominal Surgery in Relation to the General Practitioner.

Dr. Albert Vander Veer, of Albany, read the paper. Among other indications of the rapid advance in abdominal surgery, managers of hospitals no longer passed resolutions forbidding resort to abdominal section. On the contrary, no means were now spared to make this department of surgery a success. The question arose whether the wide-spread reports in medical journals, lay press, and other journals, of wonderful cures in appendicitis and other conditions, had not led to undue interference. In general, no. Had the general practitioner kept pace with the surgeon in the diagnosis of abdominal troubles requiring operative interference, and in upholding him in his work?

The author directed his remarks more particularly to the surgery of the gall bladder and of the vermiform appendix. Hypothetical questions were put, which fitted cases in actual practice, which he related afterward, as to whether under certain circumstances the general practitioner was as well prepared to pass upon the necessity for operative interference as he should be at the present day?

The first example related to the surgery of the gall-bladder. There was no jaundice, no gall stones in the stools, no distention of the gall bladder, surely, thought the family physician, the case must be only one of sympathetic gastric colic. Then the attacks of pain became more severe, and on careful inquiry of the patient and her husband it was learned they had at times noticed some swelling over the point of greatest tenderness; there is at times relief on assuming certain positions. The surgeon expressed the opinion that there were gall stones in the bladder and consent was given to an operation, although the family physician was in doubt. A large stone, which Dr. Vander Veer showed, was removed which ended the patient's sufferings.

In a second case the attacks of pain were attended by jaundice, passage of clay-colored stools, and at the operation no stones were found, but the gall-bladder was contracted and adherent. Loosening the adhesions gave much relief. Was it not fair to assume that had this patient been operated upon soon after it had been shown that medicinal treatment would not succeed, gall stones would probably have been found before atrophy had taken place and she would have been saved three or four years' suffering? Did the case not indicate that the general practitioner and surgeon should unite earlier for the relief of the patient? He did not mean that if the surgeon were called an operation should necessarily be performed. By an honest consulting together some conclusion might be reached which would be for the patient's good and yet spare operative interference. This happened in the next case related, and in which olive oil and salts, which had not yet been tried, resulted in the discharge of stones, with relief from biliary colic which promised to be permanent. The next specimen was obtained at autopsy in the case of a man who had suffered from biliary colic, but had died from another disease. It demonstrated that a much larger stone could be passed through the duct into the duodenum with ease than one might have believed.

Did general practitioners fully realize the dangers connected with attacks of biliary colic? The author had known attacks to be so severe as to cause collapse and death.

One of the possible accidents in operating for gall-stone was a fistulous opening, which might prove a great disappointment to the patient unless he were informed beforehand.

The other condition in which the general practitioner and surgeon found it pre eminently necessary to join hands was appendicitis. He had heard an able practitioner say he had treated ten cases of appendicitis with nine recoveries and only one death, which he seemed to think spoke well for medicine as compared with surgery. Yet further inquiry showed that one patient had had a discharge of pus in this direction, another in that, and so on. Would these patients have been worse off for an operation?

Dr. Vander Veer then related a number of cases seen the past few months, illustrating different phases of appendicitis and indications for operation. They included some of recovery without an operation, which he had advised, but the question arose whether they were not yet of the class which called for the intermediate operation. This was growing in favor, and the author had himself operated between attacks in a few instances of relapsing appendicitis. He also related a case of acute perforating appendicitis, and although it was recognized early by the physician, who recommended an operation and sent for the surgeon, the latter arrived some hours later, too late to save the patient. Several urgent questions suggested themselves in connection with such cases, one being whether we should not operate immediately as for a bullet wound, and whether thereby life might not be saved where hitherto the results have been so fatal.

In cases of appendicitis, in general there was the greatest need of honest and early consultation between practitioner and surgeon.

There was another somewhat unexplored field to the general practitioner where he should come in closer relations to the surgeon. He referred to tubercular peritonitis, a condition which, in a large proportion of cases, could not be reached in any other way than by section and drainage. The results of surgical interference gave encouragement for further trial.

Questions relating to pus tubes and pelvic surgery belonged to gynecologists, and he was glad to note the closer relations which had developed between them and general practitioners the past few years.

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Dr. R. F. Weir opened the discussion. He had understood the chief point in the paper to be the early coming together of physician and surgeon in order to obviate too late operative interference. He thought this point had come to be well understood by physicians in and around New York so far as appendicitis was concerned. What they wanted to know of the surgeon was, how he reached the conclusion that an operation was or was not indicated at a particular time in a particular case. Sometimes one was willing to wait twenty-four hours; sometimes even forty-eight hours. Why? the surgeon's opinion was based upon signs which he had come to recognize through experience but which he found difficult to describe in words. One man might say that he placed a great deal of reliance upon the character of the respiration, another upon the character of the pulse, and so of other special symptoms. Dr. Weir would take into account the several leading symptoms, including abdominal hardness and pain, and if he found improvement throughout the circle he would not yet operate, but if one or several symptoms improved while one or more failed to do so he would operate at once. It was during the early stage that we wished to decide the question whether an operation would be necessary, for if it were done then, before very extensive inflammatory action had developed, it would be safer.

Threadbare.

Dr. Joseph D. Bryant believed that when the subject of appendicitis was raised, physicians were inclined to take to the woods, feeling that it had been worn threadbare. He had given considerable thought to appendicitis, but must admit that he never felt so much doubt and fear of his judgment when called in consultation as when about to meet a case of appendicitis. It would be readily understood, then, that so far as he was concerned the question was not yet a settled one. Notwithstanding that he had followed conscientiously the work and writings of others in this line, and had tried to formulate rules for his own guidance, yet he must admit having met with most serious and heart rending disappointments. Patients whom he had thought would recover had suddenly developed peritonitis and died; in patients whom he had believed required an operation he had found, when the belly was opened, evidences of resolution which probably would have ended in recovery without interference. He could not say always just what patients required an operation and in what cases it would be safe to postpone it. Nor did he know of anybody who could. Cases had occurred in this city and elsewhere in which eminent surgeons, after weighing all the points, had operated and found that appendicitis did not exist at all. When physicians knew of such incidents we could not wonder at their hesitation about recommending operative interference when a case arose in their family practice.

Regarding the traditional grape-seed in the appendix, he had once had the appendix examined in one hundred and fifty autopsies and in none was it found to contain grape-seed or any other foreign body except inspissated feces or muco pus.

Before closing his remarks Dr. Bryant impressed the need of closer relationship between surgeon and physician in various other fields also, especially in malignant disease.

Dr. Seneca D. Powell spoke of that which he regarded as the vital point in abdominal surgery, namely, diagnosis. An illustrative case was one diagnosticated by the attending physician and himself as one of appendicitis. A tumor was felt, but on operating he found a displaced gall-bladder with two large stones. He did not think the cases of appendicitis resembling, because of their severity and suddenness, gunshot wounds of the abdomen, came under the discussion, as this related more especially to indications for operation in doubtful, usually subacute, cases. The diagnosis in the former was beyond doubt, and the question of operating depended only upon whether the patient could survive it. In any case, if the indications for an operation were clear, one should not trouble himself about an exact diagnosis until the abdomen was open.

Are Doctors Afraid of Surgeons?

Dr. Charles McBurney thought it might be inferred from some published articles that the doctor had reason to be afraid of the surgeon; that it was a very ticklish matter to introduce him into the house—he would surely want to operate. He wished to assure the general practitioner that personally he did not belong to that class. The general practitioner was his friend. He brought him his cases, and he always enjoyed discussing them with him. He hoped the other party could say the same. He could appreciate the position of the physician who had attended a family for years, and was suddenly called upon to meet a case of appendicitis which required him to say whether a surgeon should be called and an operation should or should not be performed. Yet such emergencies arose and must be met. It would not do to temporize, since a little delay might prove fatal to the patient. The feeling between the physician and surgeon should be, therefore, one of confidence, and the latter should be called in time to consult with regard to the propriety of operative interference and not only after an operation had become imperative.

He had often been asked how he determined the exact time to operate in a case of appendicitis, but had not been able to express his impressions in words. But this inability to give another as clear an idea of a patient's condition as one had himself, was as true of other diseases as of appendicitis; the difference being that in them delay in treatment was permissible, whereas in appendicitis procrastination might mean death. It was experience which enabled one to reach a reliable conclusion, not alone in appendicitis, but also in pneumonia, typhoid fever, or any other disease. A description in words could not enable the tyro to reach a

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judgmhnt as reliable as that of one who had observed many cases.

Dr. Vander Veer made some closing remarks, after which a recess was taken to give the tellers time to count the votes cast for candidates for office.

OFFICERS ELECTED.

Vice-President—Jos. D. Bryant.

Trustee—A. Jacobi.

Treasurer of Trustees—William F. Cushman.

Member of Committee on Library—W. Gilman Thompson.

Member of Committee on Admissions—John S. Warren.

The Ohio College Association Against Foot-Ball and the Intercollegiate Games.—The following resolutions were adopted by the Ohio College Association at its meeting at Delaware, Ohio, December 28, 1893:

"1. In common which all educational authorities, so far as known to us, and in common with the press of the country and the opinions of our patrons, we deplore the rughness and exposure to injury which characterize the game of foot-ball as at present played, and urge the measures of reform in it rules and methods which we are to know are being considered in some influential quarters. And we furthermore suggest to the authorities of the colleges we represent to consider the propriety of suppressing the game unless the reforms be made and observed.

"2. We would place on record our heartiest protest against the intercollegiate athletic games so far as they entail needless expense, so far as they interfere with study, so far as they tend to promote professionalism, and so far as they introduce an unwise competition, and we would recommend that each college of this association consider the question of the prohibition of the games.

"3. We nevertheless heartily, and as the result of experience and observation, approve of the utmost exertion to secure thorough physical development for our youth in college by the most careful and scientific methods.

"We believe that the gymnasium furnishes a board and sufficient basis for that pervasive athletic culture which those need who are to do life's work in directions of mental effort, and that sufficient variety can be found in the field-days and relative out door sports with some military drill as an adjunct, and that ample interest can be secured by intercollegiate competition to obtian the most perfect results in the most agreeable manner."

This report was a compromise report substituted for the majority report of the Committee on Athletics and the Gymnasium; the majority report is described as having been "broad and sweeping" against all intercollegiate games of foot-ball and base-ball.

NOTES AND ITEMS

An Antiseptic, Analgesic and Calmative Admixture.—H. B. Pettingill, M.D., Mystic Flats, 39th and Broadway, New York City, in an article on "Intestinal Antisepsis" in *New Phar. Prod.*, gives some excellent experience from which the following is selected:

"Dr. Van Valgah in a paper on the "Causation and Treatment of Chronic Diarrhea," in the New York *Medical Record*, says: 'Having secured as nearly as we can a clean and sweet state of the digestive tube, our next object is to get perfect digestion of the food taken. This is an aim second to no other in importance. Undigested food in the wrong part of the intestine is an irritant. Rapid absorption is the chief barrier against superdigestion, fermentation and putrefaction, and perfect digestion is the essential preliminary to the easy and healthy performance of the function of the mucous membrane.' Now with this condition of affairs and the administration of proper remedies, we can expect to destory the pathogenic bacteria and the resulting toxines can be rendered innocuous. The tyrotoxicons of Vaughan belonging to the toxalbumen type are readily destroyed by the decomposition of salol in the intestinal tract. Salol is a salicylate of phenol, and as said before, is not acted upon until it passes through the stomach, and when the phenol is set free in the intestine it has its maximum antiseptic power. Now in addition to this, we have the calmative and analgesic effect of the antikamina, which effect is so often neeessary, and where in many cases opium is contra indicated.

Every physician knows full well the advantages to be derived from the use of antikamnia in very many diseases, but a number of them are still lacking a knowledge of the fact, that antikamnia in combination with various remedies has a peculiarly happy effect; particularly in this the case when combined with salol. Salol is a most valuable remedy in many effections; and its usefulness seems to be enhanced by combining it with antikamnia. The rheumatoid condition so often seen in varions manifestations in this country, are wonderfully relieved by the use of this combination.

The five grain tablet containing 2½ grains each of antikamnia and salol, is recommended highly in the treatment of cases of both acute and chronic cystitis. The pain and burning is relieved to a marked degree. Salol makes the urine acid and clears it up. This remedy is a reliable one in the treatment of summer diarrhea, antero-colitis, dysentery, etc. In dysentery, where there are bloody, slimy discharges, with tormina and tenesmus, a good dose of sulphate of magnesia followed by salol and antikamina, will give results that are gratifying.

In closing his paper, Dr. Pettingill adds: It is also one of the best remedies for the relief of the headache

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and pains of influenza,("la grippe"). The muscular pains which so often accompany this disease, and which seem to be a part and parcel of it, are often relieved at once by a full dose of this combination. Great reliance can be placed in the admixture of these two drugs in those diseases in which the onset is sudden, and which are attended with great pain and hyperasthesia with intense nervous derangement, particulary when the temperature rises to 102° or 103°. By its antithermic, analgesic and neurotic properties, it fills a want scarcely found in any other remedy."

Endowment for Laboratory Research in the Therapeutics of Phthisis.—The last annual report of the Adirondack Sanitarium, by Dr. Trudeau, contains this announcement: "The medical report shows the usual good results obtainable from a change of climate and an open-air life in combating consumption, and one of its most interesting features relates to those patient who have received injections of modified tuberculin. Although this form of treatment has been almost universally condemned as useless and dangerous, the results obtained during the past two years at the Sanitarium, by the careful use of a modified tuberculin, when applied in conjunction with the usual climatic and open air methods, have been on the whole encouraging and indicate that such specific medication may, with care,be safely administered, and is probably to have a place in the future treatment of incipient consumption. It is, therefore, most opportune that through the liberality of two gentlemen, whose names at their express wish are withheld, a five year laboratory and research fund has been instituted for the purpose of defraying the laboratory expenses incurred in study of the specific treatment of tuberculosis, and to meet the expenditure incident to any orginal researches on this disease which may be undertaken in connection with the Sanitarium. As far as I can learn, this is the first fund established in this country to encourage scientific observations and experiments on tuberculosis, with the hope that a broader knowledge of the diseases may lead in future to some relief from the wide spread suffering which it causes.—*Med. Rec.*

Dr. Emory Lanphear, of Kansas City, wishes to inform members of the medical profession that he has at his disposal a number of free beds for cases demanding hysterectomy, extirpation of cancer of the breast, or radical cure of hernia. He will be glad to correspond with physicians regarding charity cases of the classes mentioned.

Dr. Russell Reynolds has been elected president of the Royal College of Physicians, of London, in succession to the late Sir Andrew Clark.

August Martin, heretofore docent, has been made Professor of Gynecology and Obstetrics in the University of Berlin.

Asthma.

℞ Neurosine, - - - - - - - - - fℨj.
Tinct. lobeliæ, - - - - - - - - fℨij.
Spir. æth. comp., - - - - - - - - fℨj.
Syr. acaciæ, - - - - - - - - fℨij.
M.
Sig. Dessertspoonful in water every hour or two during paroxisms.

Chlorosis.

℞ Pilul Chalybeate (Wasner & Co.), - - No. 100.
Sig. One to four pills three times a day.

℞ Golden's Liquid Beef Tonic, - - - fℨvj.
Liq. Fowler's,
Citrate of iron and ammonia, - - - aa ℨj.
M.
Sig. Dessertspoonful three times a day after meals.

Debility.

℞ Metcalf's Coca Wine,
Rudisch's Beef Peptone, - - - aa fℨiij.
M.
Sig. Tablespoonful three times a day.

Erythema.

℞ Sennine, - - - - - - - - - ℨj.
Bismuth. subnitr.,
Zinc. oxyd., - - - - - - - - aa ℨiij.
Pulv. amyl, - - - - - - - - ℨss.
Vaseline, - - - - - - - - ℨj.
Ol. rosæ, - - - - - - - - gtt.j.
M. Ft. ungt.
Sig. Apply twice a day.

Gastralgia.

℞ Bismuth subnitr., - - - - - - - ℨj.
Pulv. opii, - - - - - - - - gr.v.
Sacch. alb., - - - - - - - - ℨss.
M. F. pulv. Divide in dos. No. 10.
Sig. One powder three times a day.

Headache.

℞ Salo-Sedatus, - - - - five-grain tablets.
Sig. Every three to six hours two tablets till relieved.

℞ Antikamnia, - - - - five-grain tablets.
Sig. One tablet every hour till relieved.

Lumbago.

℞ Phenacetine, - - - - - - - - ℨss.
Divide in dos. No. vi.
Sig. One powder every one to four hours.

℞ Sod. salicyl.,
Potass. iodide, - - - - - - - aa ℨij.
Vin colchic. sem., - - - - - - - fℨj.
Syr. simpl., - - - - - - - fℨj.
Aq. menth. pip., - - - - - - - fℨiij.
M.
Sig. Dessertspoonful every three hours.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

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[CONTINUED.]

VI.—INFECTION, SUSCEPTIBILITY AND IMMUNITY.

The human organism is exposed to infection of various kinds at every point. The infection of open and exposed wounds is, or rather was, a thing of daily occurrence; thanks however to the principles of antiseptic and aseptic surgery the occurrence or formation of pus at the present day is comparatively rare under proper treatment and is really nothing more nor less than an evidence of the ignorance or carelessness of the physician or surgeon in charge. Schimmelbusch has definitely proven in his experiments with the *Staphylococcus pyogenes aureus*, *Bacillus authracis* and other microorganisms that infection is undoubtedly possible through the channel of the unbroken skin. Machnoff in his experiments with the effects of the *Bacillus anthracis* upon guinea pigs came to the same conclusion. Indeed these results have been further confirmed by the results obtained by Roth, Braunschweig, Ribbert and others.

Buechner instituted researches for the purpose of determining the possibility of infection through the channel of the intestinal mucous membrane. For this purpose he used mice and guinea pigs and fed them upon anthrax spores. In four cases out of thirty-three positive results were obtained, that is, the disease developed. This definitely proves that while infection does not necessarily follow the ingestion of infected material, it is nevertheless posible. Indeed it is more than exceedingly probably that this is the usual mode of infection in typhoid fever.

Buechner also made experiments with a view to testing the possibility of infection by means of the mucous membrane of the respiratory tract. In these experiments he obtained positive results in fifty cases out of sixty-six, —showing that the chances of infection by the channel of mucous membrane of the respiratory tract are greater than in the case of the intestinal tract. The possibility of infection by the former channel is substantiated by the disease termed "wool sorter's disease"; here the infectious material set free by the handling of infected wool is inspired by the sorter, instituting the peculiar disease. Hildebrandt has experimentally demonstrated that under ordinary circumstances the majority of bacteria suspended in the air do not reach the lungs or even the trachea, but are usually deposited upon the mucous membrane of the mouth, nares or fauces; but that in prolonged respiration in an atmosphere so charged with bacteria, the micro organisms may be found deposited in the lungs. This may probably explain, in some degree, the relative frequency with which laryngeal or pharyngeal tuberculosis accompanies the pulmonary form of the disease, especially its more virulent forms.

In general however, we may say that man is most frequently attacked by the infectious diseases through the media of the alimentary canal, the circulatory or lymphatic systems and the respiratory tract. The gastric juice and the absorbent cells of the stomach and intestinal tract afford physiological guards against infection by means of the alimentary canal; hence, susceptibility to the various infectious intestinal diseases must depend, to a certain extent, upon those causes which render the physiological guards defective. All germs which have the power of generating toxic substances are dangerous when introduced into the intestinal canal; this is dependent upon their capability of producing chemical poisons which are usually proteid in character and probably produce their objectionable actions by virtue of some process of catalysis. When the complex cellular molecules are split up, simpler ones are formed; but the chemical action implies the generation of a certain amount of heat and hence fever is the most common and predominant manifestation.

The physiological guards against infection through the channel of the blood or of the lymph lies in the germicidal powers of the proteids of these fluids and susceptibility to infection by such channels is, to a certain extent, dependent upon the impoverishment of the fluids. Hence the treatment of consumption and other similar

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diseases by means of liberal diet, constitutional remedies and plenty of exercise in the open air is founded upon a true and proper scientific basis and is not purely empirical in character.

It has long been known and observed that certain species are specially predisposed to certain diseases while other species enjoy more or less immunity to the same. Thus man is especially subject to attacks of such diseases as typhoid fever, relapsing fever, cholera and others while the lower animals do not suffer at all with them. On the other hand man possesses immunity to many of the infectious diseases of the lower animals. Immunity to disease may also be racial in character. For instance the negro is decidedly less subject to yellow fever than is the white man, but on the other hand he is especially susceptible to small pox. Then again, Algerian sheep are immune to anthrax, a disease which is markedly fatal among other sheep Immunity may also be individual in character; thus we have certain diseases, of an exanthematous type especially, to which adults seem more or less immune but to which children possess such a marked and peculiar susceptibility that such are frequently termed "*children's* diseases."

The most essential, indeed *the* essential difference between a suceptible animal and an immune animal lies in the fact that in the one the pathogenic germ invades the tissues and multiples, producing certain changes in the tissues and fluids of the animal so infected which prove prejudicial to its life or health. In the immune animal on the other hand even though invasion is accomplished, multiplication does not usually occur, or if it does it is restricted to a circumscribed area in which the invader is ultimately destroyed by the operation of the natural processes. The question then resolves itself into this—in what consists this difference, or upon what does it depend? The question is a simple one, it is true, but its solution has been fraught with much labor. Upon what does this difference depend? Surely not upon the germ, for that is, as it were, a common factor in each case, whether it be of susceptibility on the one hand or immunity on the other. It must then depend upon conditions of some kind surrounding the germ and which are either favorable or unfavorable to its development.

As early as the year 1881 Sternberg suggested that the leucocytes might pick up, assimilate and dispose of bacterial organisms. This suggestion was based upon the observation that leucocytes did take up inorganic granules, that bacteria had been found within their substance and also that amœbæ fed upon bacteria and similar organisms. 1884 Metschnikoff took the idea up and elaborated it, suggesting the name of phagocytosis for this so called function of leucocytes, which was based upon the idea that the phagocyte actually *ate up* the micro-organism which it took within its substance. Baumgarten, Weigert and others suggested that perhaps the bacteria observed within the substance of the leucocytes may have been already dead when picked up, having been destroyed *outside* of the white blood-corpuscle. Indeed we now have the conclusive experimental e dence of Buechner and others that blood-serum poss ses considerable germicidal power *independent of its c ular constituents.*

It seems then that the cells of the animal body mu be concerned in the production of this condition call immunity, this may be either the result of direct or i direct action; that is, either the cells may possess t power or they may contain or elaborate a substan vested with such powers. Immunity may be acquir or natural. Among the best examples of the natu variety we might cite the case of the immunity of t common rat, the frog, the dog and the common domes fowl to anthrax. The chick from the earliest period its existence is naturally immune to even the most v ulent cultures of the anthrax bacillus, as has been d monstrated by Lazarus and Weyl. True it is that susceptibility may be induced artificially but this practically but a *perversion* of natural properties. Raci immunity is supposed to be more or less due to an a quired tolerance due to processes of natural selecti and inheritance. This, it is claimed by some, resul naturally from an application of the law of the surviv of the fittest as well as that of the law of heredity. In th view of the subject it is supposed that the feebler cells a killed or destroyed in the struggle for existence and th when recovery supervenes the body resumes its norm functional activity. But now it will contain the pr geny of those cells which were originally strong enou to resist the effect of that particular disease throu which it has passed. It is but natural to suppose th those parent cells have transmitted their qualities to their offspring. Thus it is rather by a death of t weaker and less resistive cells than by an acquisition new powers on the part of the surviving cells that i munity is afforded. The strong survive by virtue their strength and this tends to perpetuate and impr the species. Certain it is that animals transmit th personal peculiarities to their progeny—and what is animal but a collection of cells, the sum total of wh vitalities forms the vitality of the animal? If thi true of a collection or aggregation of cells, may it be also true of a single cell? It is certainly plausi to believe that properties already possessed by cells m be transmitted to their descendants, for the transmis of congenital traits seems established beyond a pe venture. Our conclusion then must be that immun where it exists racially, is due to inherent properties the parent cell and their natural development with of functional activity; also that these properties may transmitted to their pregeny.

The natural immunity which is peculiar to the indi ual usually becomes more prominent or active adolescence or adult life. Thus the young rat is ceptible to anthrax while the adult is immune and only be rendered susceptible by reducing, in some m ner, the vital strength or resistive power. Again, child is highly susceptible to those peculiar dise called "children's diseases," such as scarlatina, diph

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ria and the acute exanthems; the adult, while not entirely immune, possesses little susceptibility. This seems to be in some way dependent upon a higher vital resistive power, for the adult does not usually contract the disease unless exposed to it for a long period or else reduced in vitality. As Vaughan says: "The only resonable explanation of this immunity is that it is inherent in the parent cell and comes as naturally as the changes in form and voice at puberty or as the growth of the beard in early manhood." If this be so then we may reasonably conclude that immunity is, in all probability, one of the phenomena inherent in the vital activity of certain cells.

Lewis and D. Cunningham, as early as 1872, showed that bacteria rapidly disappear when injected into the circulation.

In 1874 Traube and Gschiedlen demonstrated that when arterial blood, under antiseptic precautions, was taken from a rabbit, into whose jugular vein a fluid rich in putrefactive germs had been injected forty-eight hours previously, it failed to undergo decomposition for months. These germicidal properties they erroneously attributed to the "ozonized oxygen" of the blood.

Wyssokowicz had also noticed that bacteria rapidly disappeared from the circulation when injected therein; he stated that this was due to their deposition in the capillaries of the tissues.

Grohmann and Schmidt experimented with extravascular blood and found that anthrax bacilli which had been kept in plasma were modified in virulence; this they attributed to the process of coagulation.

Fodor (1887) combated the theory of Wyssokowicz that the disappearance of bacteria from the circulation was due to their deposition and retention in the capillaries. He proved that blood freshly drawn from the heart possesses consiberable germicidal power; that even when kept *without* the body, in blood in a pipette, the germs rapidly diminished in number. After awhile the blood seemed to lose its germicidal properties and there followed an increase in the number of germs.

In the next year Nuttall demonstrated the power of defibrinated blood to destroy various pathogenic and non-pathogenic organisms. He also confirmed Fodor's conclusion that after a time blood loses its germicidal properties and then becomes an excellent culture medium.

Behring has shown that the blood of various animals differs in the intensity of germicidal powers—thus in some cases it was found to be decided in the case of certain pathogenic bacteria, less so for others and absolutely lacking in the case of certain common saprophytes. He demonstrated that the blood of the rat and frog, which possess special immunity to anthrax, is especially fatal to the anthrax bacillus. While this germicidal action is very prompt it is very limited and when the number of germs is excessive, development may follow an interval of limited destruction—thus it seems that the power is ultimately neutralized or exhausted after its exercise for a definite period. These results were somewhat similar to those of Fodor and Nuttall.

Buechner, Voit, Sittmann and Orthenberger made most exhaustive researches into the germicidal properties of blood and (1890) made a most valuable and important contribution to the subject. The work of these investigators is of such importance that a statement of the results of their work is justifiable; they may be tersely summed up as follows:

1. The germicidal action of blood is not due to phagocytes, because it is not influenced by the alternate freezing and thawing of the blood, by which the leucocytes of the rabbit are destroyed.

2. The germicidal properties of the cell-free serum must be due to its soluble constituents.

3. Neither neutralization of the serm, nor the addition of pepsin, nor the removal of carbon di-oxid gas, nor treatment with oxygen has any effect upon the germicidal properties of the blood.

4. Dialysis of the serum against water destroys its activity, while dialysis against 0.75 per cent salt solution does not. In the diffusate there is no germicidal substance. The loss by dialysis with water must be due to the withdrawal of the inorganic salts of the serum.

5. The same is shown to be the case when the serum is diluted with water and when it is diluted with salt solution. In the former instance the germicidal action is destroyed, while in the latter it is not.

6. The inorganic salts have in and of themselves no germicidal action. They are active only in so far as they affect the normal properties of the albuminates of the serum. The germicidal properties of the serum reside in its albuminous constituents.

7. The difference in the effects of the active serum and that which has been heated to 55°C. is due to the altered condition of the albuminate. The difference may possibly be a chemical one (due to changes within the molecule) or it may be due to alterations in mycelial structure. The albuminous bodies act upon the bacteria only when the former are in active state.

Vaughan in commenting on these results says: "We wish at this point to call attention to an inconsistency between the results obtained by Buechner and the conclusion that he draws. In experiment No. 45 he renders the serum slightly acid and adds 0.1 gram of pepsin to each five c. c. of serum (showing by a side experiment that this pepsin actively digests coagulated egg-albumin in neutral solution) and finds that the digestive action of the pepsin does not lessen the germicidal properties of the serum. In fact he states this in his conclusions, but his ultimate opinion, and the one held by him in his latest contribution, is that the germicidal constituent of the blood is the serum-albumin. How much serum-albumin remains in blood-serum after it has been thoroughly digested with pepsin? He could scarcely have chosen a more positive method of demonstrating that the germicidal constituent is not serum-albumin. Either his pepsin was not active, (Mr. Vaughan seems to forget that it was expressly stated that a control experiment demonstrated the activity of the pepsin in its

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ability to digest coagulated egg-albumin. However, this does not affect his argument or its truth in the slightest degree.) and on this supposition his experiment is without value, or the active constituent of blood serum is a substance that is not destroyed or materially altered by peptic digestion. We know that the peptones not only have no germicidal properties, but that they belong to that class of proteids that is most favorable to the growth and development of germs. We recognize this fact when we add peptones to the various artificial media on which we cultivate germs." This objection of Vaughan's certainly appears to us to be well taken, nevertheless the fact remains that the results announced by these observers are among the most important that have been made upon the subject. Indeed the success with which they met induced many others to enter this new field of research. The result is that although much useful information as to the germicidal powers of the blood under various conditions has been thereby elucidated yet as far as the exact nature of that germicidal constitutent is concerned but little or no progress was made—if we except the comparatively recent and masterly collaborations of Vaughan, Novy and McClintock. Behring and Nissen obtained results which seem to indicate that the action of blood within the natural channels and that of extra-vascular blood is vastly different. Pekelharing's experiments proved that the disappearence of anthrax spores, enclosed within parchment, when introduced beneath the skin of rabbits was not due to phagocytes but to some soluble poisonous substance. Halliburton separated a cell-globulin from lymphatic glands; Hankin found that this substance possesses marked germicidal proportics. Christmas also prepared a germicidal substance from the spleen and other organs.

Attempts have been made also to determine the exact nature of this germicidal constituent of the blood and tissues by the action of precipitating reagents upon the proteids of blood-serum. Buechner, Christmas, Bitter, Emmerich, Tsuboi, Steinmetz, Loew and others have given much attention to the subject.

Fodor and Zuntz had shown some time ago that freshly drawn blood decreases rapidly in alkalinity upon standing, just as it seems to lose in germicidal powers. Indeed Behring had suggested that the action of the blood of the white rat upon anthrax bacilli was due to its great alkalinity. Vaughan too has suggested that the blood of the adult rat, which is not susceptible to anthrax, is more alkaline than that of the young rat, which is susceptible to the disease. Emmerich and his coworkers demonstrated that blood-serum rendered faintly acid not only has no germicidal power but furnishes a good culture-medium. Behring demonstrated that the white rat lost his immunity to anthrax when the acid phosphate of calcium was mixed with its food in quantities sufficient to neutralize the alkalinity of the blood; Fodor also demonstrated that the resistance of rabbits to anthrax was markedly increased after the administration of sodium phosphate or of the alkaline carbonates. In 1887 he had noticed that after awhil infected blood lost its germicidal properties and becam an excellent culture medium. May this not have bee due to a loss of alkalinity, dependent upon the form tion of acid products and subsequent neutralization the natural alkalization? Certainly it is proven th bacterial activity may generate many and various acid such as formic, acetic, butyric, propionic, lactic, etc.

Hankin, in a paper published in the past year, su gests that the germicidal substance is a special secretio of the eosinophile granular cells; according to his th ory the granular matter of these cells is the anteceden of the germicidal substance.

In summing up the evidence we may summarize follows:

1. It has been incontestably proven that blood-seru contains a substance which possesses considerabl germicidal power.

2. Buechner has demonstrated that pepsin does n affect or extract the active germicidal constituent fro blood serum; ergo, this active constituent cannot b serum-albumin, because pepsin converts it into pepton which is especially favorable to the development germ life.

3. A temperature of 55°C., as Buechner and othe have demonstrated, destroys or impairs the germicid activity of blood-serum. It is probable then that th substance is a proteid.

Vaughan adds to these a statement that the onl proteid likely to be present in blood-serum, and whic is not destroyed by peptic digestion, is nuclein. Thi conclusion would be rendered probable if he could iso late the nucleins themselves and demonstrate that the possess germicidal properties—if the residue remaine inert it would strongly confirm the first result. To th solution of these questions Vaughan has given conside able time and attention. The results which he has ob tained are exceedingly striking and hardly less tha convincing. Suffice it to say that he has demonstrate that blood-serum does contain a nuclein—he asks the i teresting question, does it come from the disintegratio of the polynuclear cells, or shall we regard certai white blood corpuscles as unicellular organs whos function it is to secrete this nuclein? He has demo strated by repeated experiments that this nuclein po sesses considerable germicidal power. He has als made many experiments with various nucleins extracte from the testes, the thyroid gland and yeast cells an proves conclusively that they likewise possess marke germicidal power. Indeed it now seems that immunit depends largely upon cell-nucleins, as well as upon th reaction and composition of the fluids of the bod upon vital resistive power and cellular activity. Woo dridge of England has also obtained results which see but to confirm those of Vaughan, to whom we owe large part of our present knowledge of the subject.

The fact that the germicidal constituent of the bloo serum can be isolated, and utilized has an importa bearing upon therapeutics,—indeed it is exceedingl

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analogous to the advance which was made when it became possible to extract the active alkaloidal principles from crude drugs. Blood-serum therapy has been proven impracticable not on account of a lack of virtue but because of the large amount of the fluid which it is necessary to inject in order to secure favorable results. The isolation and use of nuclein now seems to indicate a method of avoiding this difficulty—it is even hinted that the future may witness the use of the various nucleins as therapeutic agents in the treatment of disease.

But persons or animals naturally susceptible to disease may, by means of certain processes, secure an immunity, usually termed acquired in contradistinction to that which exists naturally in some species, races or individuals. It has long been a well-known fact that certain of the infectious diseases, such as typhoid fever, yellow fever, parotitis, pertussis, etc. confer upon the individual so infected a freedom from or immunity to subsequent development; this immunity while general is not always absolute.

Certain other infectious diseases such as epidemic influenza, croup, pneumonia, Asiatic cholera, etc. do not confer immunity against subsequent attacks. It is exceedingly probable, however, that in this latter case a certain degree of immunity of a limited duration is afforded, because we seldom have an individual stricken with these diseases twice during the same epidemic. If such immunity is afforded it must be transient in nature. Even that afforded by the first class of diseases is not everlasting in its effects, for a man may have small-pox a second time if several years have elapsed since the first attack and provided also that the second exposure brings him in contact with a virulent form of infection or consists of an exposure through an unusually long period or at a time when health and vitality are impaired by any cause. Until the discovery of Jenner the only form of acquired immunity known was that obtained or conferred by an actual attack of the disease ending in recovery. We now know at the present time that immunity is also conferred by vaccination with a modified form of infection; by the introduction of a small number of virulent germs followed by a successive inoculations with larger numbers until a tolerance, as it were, is established; and by treatments with sterilized germ-cultures.

Pasteur (1880) produced immunity by inducing a mild attack by means of an injection of attenuated cultures. He, in this way, made successful inoculations against chicken-cholera and anthrax. Emmerich and his pupils succeeded in immunizing animals to swine-erysipelas by employing small numbers of the virulent germs and gradually increasing the dose. This is practically the *rationale* of Pasteur's method in rabies. However, the immunity consequent upon inoculation with a germ full of virulence is not only more marked than in the case of the use of modified or attenuated cultures but is also more lasting in its effect. Ogata and Jasuhara have fully demonstrated the fact that anthrax cultures in the blood of an immune animal (such as the rat, dog or frog) become attenuated as far as their pathogenic power is concerned. Also that injection of these cultures, so attenuated, into the blood of a susceptible animal gives rise to a mild attack followed by immunity. Moreover that if even a drop of blood from the dog or frog be injected into a mouse, before or after the latter is inoculated with a virulent culture of the anthrax bacillus, that it proves protective against a fatal attack, the mild attack thus induced being followed by immunity. Similar results have been attained by Behring and Kitasato.

Tizzoni aud Cattani fnid that in the case of tetanus, the blood-serum of an immune animal will protect either against the living germ or the germ-free culture.

Salmon and Smith (1886) succeeded in rendering pigeons immune to hog-cholera by inoculations with sterilized cultures of the bacilli. Roux (1888) obtained similar results in the case of anthrax and Behring and Kitasato in the case of tetanus and diphtheria.

Fraenkel determined that 10–20 c. c. of a three-weeks old culture of diphtheria babillus, if heated to 65° or 70° for one hour, and then injected into a guinea-pig, secures immunity against subsequent inoculations by the virulent germ if such subsequent inoculations are not made sooner than the fourteenth day after treatment by the sterilized culture. He declares that in his opinion the cultures contain *two* special albuminous bodies, one toxic in nature and destroyed or rendered innocuous by a temperature of 65°–70° C and the other conferring immunity yet retaining its properties at that temperature.

Tizzoni, Cattani, Klemperer, Ogata, Jasuhara, Kitasato, Behring, Buechner and others hold to a belief that some substance is formed in the blood of the immune animal and that this substance has the peculiar power of neutralizing the toxic products of pathogenic micro-organisms. Some conclude that this effect is not due to ptomaines but to proteids, though the latter need not necessarily be direct products of the germ against which immunity is sought nor indeed even necessarily of bacterial origin. Others however hold that this immunity-conferring substance partakes of the nature of an antitoxin. Sternberg says on this point: "The experimental evidence detailed gives strong support to the view that acquired immunity depends upon the formation of antitoxines in the bodies of immune animals. As secondary factors it is probable that tolerance to the toxic products of pathogenic bacteria and phagocytosis have considerable importance, but it is evident that the principal role cannot be assigned to these agencies."

Others, like Vaughan, Novy, McClintock and Wooldrige, believe immunity resides within the cell substance, and cite the germicidal power of the nucleins of blood, testicle, thyroid gland, yeast and other cells. Their side of the question is certainly upheld by experimental proof at least as strong as that of those advancing the antitoxin theory alone.

If a sterilized culture affords immunity what consti-

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tuent of it possesses this peculiar property? All are agreed that it is not the function of ptomaines. Vaughan says strikingly:

"We can answer the question as to which constituent of sterilized cultures gives immunity with considerable confidence if we recognize the following facts:

1. Marked artificial immunity to an infectious disease has not been obtained except by the introduction into the animal of the germ substance, either enclosed in the cell-wall or in solution.

2. Sterilized cultures contain the germ substance in one or both of these forms.

3. The same immunizing substance exists in the bodies of bacteria grown on solid media and killed by the action of chloroform.

4. The same immunizing effects, varying, however, in degree, are obtained with the bodies of the dead bacteria morphologically intact or in solution, with living bacteria modified and reduced in virulence and with very small numbers of the virulent germ."

From this he very logically concludes that the immunizing substance is a constituent of the bacterial cell itself; and further that as each kind of germ has its own peculiar poison, conferring immunity when exhibited in small doses; the poison cannot come from the cell wall, nor can it be a decomposition product of bacterial activity but an essential, characteristic portion of the cell itself, to which is due its distinctive properties. He believes this to be the nuclein. Certainly his premises are peculiarly upheld by facts, for all of the methods of producing immunity depend upon the introduction of the germ-substance into the body. Immunity conferred by an attack of disease is certainly caused by an introduction of germs which are not only living but more or less active in virulence. That which is induced by vaccination or inoculation by attenuated cultures is due to the introduction of germs which are living but whose virulent activity is more or less modified or reduced. That which is induced by inoculation with sterilized cultures is due to the introduction of the germ substance (or as Vaughan says, the germ-nuclein) so modified that it is no longer capable of reproduction.

True it is that a susceptible animal may be rendered immune by treatment with the blood serum of an immune animal. For example a horse is rendered immune to tetanus by treatment with the modified bacterial proteid and from these treatments it results that an immunity-conferring substance is generated within the horse and circulates in its blood. If now this blood-serum of the horse be injected into a mouse the animal becomes, under certain conditions immunized to tetanus. But as Vaughan most aptly says—"The immunity actually does not belong to the mouse. It still belongs to the horse. *It is stolen property and will soon be lost.*" The immunity-conferring substance is formed by the cells of the horse not of the mouse. Behring says that subsequent inoculation of the mouse may awaken its cell activity and the immunity which then results is the direct property of the mouse, *but this does not become true prior to the introduction of the germ.*

Upon what does the inciting cause act in the production of immunity? Tizzoni and Cattani have demonstrated that rabbits cannot be immunized to tetanus after removal of the spleen. Lindemann and others have shown that a dog which has undergone extirpation of the thyroid gland will not stand the doses of caffein which the same dog was able to bear prior to extirpation. The effects of extirpation, or atrophy of the thyroid gland, are now well known, as are also the brilliant results following the administration of the gland in certain diseases. It is suggested that these organs are the sources of nucleated leucocytes,—these differ from the red corpuscles in that they possess nuclei. This naturally suggested that nuclein might play an important role in the production of immunity. This thought occured to Brieger, Wasserman and Kitasato; they obtained negative results but is is significant that they used a temperature of 100° C in the elaboration of their preparations—we know now that a temperature of 55° C seriously impairs indeed almost destroys their virtues. Wooldridge of England, whose work seems to have been entirely overlooked, obtained very favorable results as indeed has Vaughan even more recently. We may now consider it conclusively proven that the blood-serum, thyroid gland, spleen, marrow of bones, etc. have considerable germicidal power and this power is possessed by their nucleins. That the nucleins do exert a powerful influence in immunity Tizzoni and Cattani have shown by failures to produce immunization of rabbits to tetanus when the spleen had been removed. We now know that Nature has provided special physiological guards against infection by the ordinary channels and further that she has supplied general physiological guards in the nucleins whose germicidal power is dependent largely upon vital cellular activity. This forces us to the conclusion that immunity is in a large measure due to the production of antagonistic substances which are produced by the stimulation of certain organs, chiefly the spleen, the thyroid gland and marrow of bones which manufacture nucleins—does it not seem reasonable then that these antidotal substances should be nucleins? Their kind and amount then would depend upon the nature of the incitant and the organ or organs specially incited. This would indicate that the processes of Nature are eminently conservative, that they are constantly striving for the attainment of such an ideal state of health as would render the system proof against hostile attacks of pathogenic organisms. It is a question whether this end might not be attained were it not for our vitiation and antagonism of Nature's own efforts by our habits and frequent infractions of all hygienic law. Clearly then anything which depresses vitality predisposes to susceptibility to disease while it is only to an exaltation of vitality that we can look for immunity.

[TO BE CONTINUED.]

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Treatment of Myxedema and Diabetes Mellitus by the Injection of Organic Extracts.

Very favorable results have been reported by many excellent observers in the treatment of myxedema with injections of extract of the thyroid gland; whether the improvement or cure due to this therapy will be lasting remains to be seen since this kind of treatment is of comparatively recent origin, but it is certainly very rational to expect that, in cases of a diseased, atrophied or removed thyroid gland, a substitution of its secretion by means of an extract prepared from the gland would, at least temporarily, do away with the symptoms consequent to an absence or disease of this gland. The prevention of myxedema, where in an operation for struma part of the gland is allowed to remain, and the results obtained by implantation of a piece of the gland into the body of animals from which the gland had been removed, must certainly suggest the idea that the treatment under discussion is based upon physiological truths and therefore a very rational one; but one must naturally infer that the improvements will only last as long as the treatment and that the latter must therefore be kept up through life in order to prevent a relapse of the disease, at least in those cases where the function of the gland is entirely destroyed. We know from physiological experiments that it is a function of the pancreas as well as the thyroid gland to remove from the body certain poisons, and there can be no doubt at the present day that the absence of the pancreas causes a large production of sugar in the animal organism and that upon a total extirpation or destruction of the pancreas, a typical diabetes mellitus ensues. While some of the functions of the pancreas may be replaced by those of the stomach, liver salivary glands, its function of removing certain poisons from the body seems to be indispensable and it apparently regulates particularly the formation and destruction of carbohydrates and products of a similar chemical constitution and, while it is not positively proven, it is very probable that diabetes mellitus is caused by a disturbed function of the pancreas. It is, therefore, rational to expect that in this disease the injection of pancreas extract into the tissues will have a favorable effect and some cases have already been reported where the disease has been very favorably influenced by this treatment and the amount of sugar in the urine greatly reduced. It is to be hoped and expected that further systematic investigations will be made with regard to this form of treatment of diabetes mellitus, as it no doubt has a physiological basis; so far, however, the number of cases observed is too small and the time of observation too short to justify a conclusion as to its real worth.

Scientific Teaching in Medicine.

From an introductory address delivered at the opening of the session of 1893–'94 of the Medical School of the Catholic University, Dublin, by Dr. C. J. Nixon, professor of medicine, and published in the Dublin *Journal of Medical Science* for December we take the liberty of publishing the following extract:

"It will be conceded by all that the present position of medicine as a science depends upon the progress which has been made, especially during the latter half of the present century, in those subjects upon which it rests, as on a tripod—viz., anatomy, physiolology and and pathology."

"ANATOMY.—Of anatomy, I need say but little. It holds and always will hold, in medicine the position of being the keystone of the arch, the basis upon which are built all other branches of medical knowledge. Without an accurate idea of the conformation of the body, and of its integral parts, it is obvious no insight could be acquired into the functions of the various organs and tissues, and the mode of their development. From structure to function is a natural transition, hence the anatomists may claim that by their earnest, patient, and continnous efforts, they have laid the foundation for physiological research. Early in the present century the microscope was introduced as an instrument of investigation, and by its means, chiefly owing to the labors of Bowman, the study of minute anatomy or his-

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tology, especially in reference to embryology or development, gave so great an impetus to the entire subject that it may be said to have placed it almost on a level with the exact sciences. By the aid of the microscope, Schleider discovered the cellular structure of vegetable tissues, while a little later on Schwann demonstrated the fact that all living structures are made up of minute particles of living tissue called cells, which, subsequently, the physiologist determined to be the seat and source of all forms of vital activity. It was about the same time that Mohl gave the name of 'protoplasm' to the hyaline material which forms the lining of cells in plants, a term subsequently given to the essential constituent of all living structures."

"It is scarcely necessary to dwell further on the light which was shed upon the various structures of the body by the study of histology. No branch of human knowledge represents more thorough and painstaking investigation than does this one—there is none that testifies more to the wondrous power of man in unlocking the mysteries of Nature. Whether we are to regard anatomy in the light which it throws upon the processes of development, or in that which it sheds upon the structure of such intricate organs as the eye, the central nervous system, the various glands, etc., it is impossible not to recognize its study as the foundation upon which the superstructure of medicine is built; and it is because the foundation has been well and carefully laid that the edifice raised upon it has such strong and goodly proportions."

"Physiology.—Turning now our attention to physiology, we find that, unlike the progress which has been made in anatomy—a progress which has been steady, and, except at the time of the introduction of the microscope into use, free from those convulsions of thought which constitute epochs or eras in the history of a science—physiology has developed not by stages, but by bounds, each period of change revolutionizing that which was learned or taught beforehand. In 1628 Harvey discovered the circulation of the blood, an event which led at the time to a scientific renaissance. Before this the crudest notions prevailed with regard to the processes of life. The idea of the circulation was that the blood swayed backward and forward in the veins 'like the tide Euripus between Attica and Eubea.' At this time anatomy was but in its infancy, chemistry and pathology were almost unknown, and the knowledge of zoology and botany might be said to be confined to that obtained by studying the natural history of drugs employed in the treatment of disease. Some degree of order in thought resulted from Harvey's discovery, it gave a special stimulus to the study of anatomy, and awakened an interest in the study of physiology which, under the deductive method of inquiry, led to considerable speculation regarding the origin of life and the vital functions generally. The progress made was, however, slow and unequal. Theorizing took the place of observation. It was considered an evidence of high intellectualism to philosophize; to observe or experiment was regarded as fitted only for those of inferior mental mold.

"The Relation of Physics and Chemistry to Physiology.—When, however, physiology by a gradual process of transition became a science of induction, when observation and experiment were made preliminaries to induction, Helmholtz mentions some curious instances which may be cited as showing the position physiology then held, and the prejudices which it had to overcome. He, himself, was strongly urged by a colleague in the university, who interested himself in the reorganization of the medical school, to divide the subject of physiology so as to be left free to devote himself exclusively to the intellectual part of it, while the experimental part could be undertaken by a colleague of inferior mental caliber, but quite good enough for that purpose. Not long before it was thought that to examine with the stethoscope was a crude method of investigation, that it lowered and debased the patient, who was after all a human being, and that a physican with a clear mental vision did not need such aid. In reference to the use of the ophthalmoscope, a celebrated surgeon gave it as his opinion that it was dangerous to allow crude light into the eye; while another said that it might be useful for physicians with bad eyes—his, however, were good, and he did not need to use it. These are instances which show how much the tendency of opinion at the time was against the use of experiment as a means of investigation of phenomena. Authority and prescription dominated procedure both in practice and in teaching. But an unseen force was steadily leading up to an inevitable change in the methods of inquiry. The study of natural philosophy had attracted the attention of the keenest intellects; the laws which had been discovered in mechanics, hydrostatics, optics, acoustics, electricity, and magnetism, began to be applied in the explanation of the processes of life, and the experimental methods employed in the physical laboratory were borrowed by the physiologists to determine the mechanics of the circulation, the laws relating to muscular and nervous responses to stimulation, the processes of absorption, and the phenomena affecting the special senses. About the same time chemistry had been making rapid strides, and great attention had been given to the study of organic bodies with the result that many which had been regarded as the product of vital processes were made in the loboratory. It soon came to be recognized that, for the most part, conditions which were supposed to be the result solely of vital energies, were capable of being split up into processes identical with those met with in the non-living world, so that, with some notable exceptions—especially those relating to absorption and certain nervous phenomena, and with the full admission that physiology can never become more than a mere branch of physics and chemistry—we have come to recognize that the true method of studying a vital phenomenon is to analyze it into its measurable physical and chemical constituents.

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"It is not difficult to realize the effect of the application of those sciences to the methods of physiological inquiry, and the origin and scope of modern physiology dates from their use. It dates from the time of Joannes Muller, of Berlin, followed by those whose names are household words to us all—Brucke, Du Bois-Reymond, Ludwig, and Claude Bernard. It is important to note that nearly all those great men were physicists as much as physiologists, and that most of the methods of investigation employed by them have been designed and in most instances made by themselves. With these notable exceptions, it may be said that to these men alone is due the scientific position held by physiology at the present day, though England can claim, through three of her sons, that she, too, has made three landmarks in its history—the circulation of the blood discovered by Harvey, the functions of the anterior and posterior roots of the spinal nerves by Sir Charles Bell, and the reflex funtion of the nervous system by Marshall Hall.

"What Medicine Owes to Experimental Physiology.—In the routine practice of medicine and surgery we are apt, perhaps, to lose sight of what we owe to physiology, especially to experimental physiology. From experiments upon animals we have learned the mechanism of the sounds of the heart, the position of each sound in the cardiac cycle, and the conditions of the cardiac muscle. To these experiments we can trace most of what is known regarding the pulse; the conditions which effect its rate and tension. So, too, with the phenomena of respiration and the causation of cough. In studying the different forms of paralysis of the cranial nerves, we are utilizing the researches of Reid; in observing lesions of the vaso-motor system, we are dealing with phenomena which attracted the energies of men like Pourfour du Petit, Schiff, Goltz, and Gaskel; in noting disturbances affecting the brain and spinal cord, we are drawing from the information supplied to us by the experimental observations of Hitzig, Friesch, Ferrier, Brown-Sequard, Marshall Hall, and Charles Bell. I do not in any way exaggerate when I affirm that all that is exact in medicine which refers to organic function is based upon the results obtained by painstaking and laborious experimentation. So great has been the progress made, so difficult is it to master all the facts that have been ascertained before any further development can be made, or fresh fruit garnered by those who represent continuity of work in this branch of medicine, that physiology has necessarily become specialized as a subject of teaching, and no modern school can afford to permit any teacher to deal with it without requiring that he should give to it his undivided attention.

"The Influence of Physiology on Pathology.—The influence which the study of physiology has exercised upon its twin sister, pathology, is easily understood. As physiology is the science of normal function, so pathology represents to us the deviation from the standard, the points of departure from health, the causes which produce such aberrations of function, and their effects upon the organs and tissues of the body. A few words will suffice to deal with the progress made by pathology during the century. Like physiology it, too, has had its periods of revolution, one of which may be regarded as probably the most pregnant of potentiality in the history of medicine—viz., the study of those minute vegetable calls known as bacteria, and their effects when ingrafted on the human organism.

"In 1760 Morgagni published his celebrated treatise, in which, for the first time, the attempt was made to localize disease to particular organs of the body, while a most accurate account was given of the anatomical changes produced as a result of the morbid action. There was, however, no attempt made by Morgagni to indicate with any degree of precision the etiological factors in the production of disease. In the first decade of this century Bichat went a step further, and localized pathological changes in certain tissues of the organs of the body. Then came, late in the 'fifties,' the epoch-making discovery of Virchow, who published his work on cellular pathology, a work which raised pathology from being, as it then was, a repository of dry, disjointed facts disjointed in their relation to each other, to the rank of a science, a science based on etiology and constituting, in conjunction with therapeutics, the essential part of modern medicine. What a monument of work does not Virchow's life represent? How keen and penetrating has been his vision, how cogent his reasoning! Starting with an investigation of all that had been done by his predecessors, whose researches and observations he verified for himself, he carefully extended the scope of their inquiries by physiological experiment and clinical observation until he obtained that result which now constitutes the cardinal element in the explanation of all diseased processes.

"Schwann and Goodsir had demonstrated the cell as the vital unit of all organized structures. Under normal physiological conditions these cells had to perform a definite function, retaining their original and characteristic forms so long as the function performed by them was normal. Virchow, by a careful study of the life-history of the cells, noted certain changes occurring in them, connected these changes with perversion of function, and, working still further backward, was led to study the altered condition of growth and environment that determined both alterations of function and of structure. He thus established such a correlation between normal and pathological biology, that in many cases it was almost impossible to determine where the one becomes merged into the other; and, furthermore, he showed that the marked changes observed in the altered cells, tissues, and organs of the body were shown to be as much the result of altered environment as the cause of perverted function. The effect of Virchow's teaching was farreaching. When it was ascertained that the bodies of animals were composed of structures similar in many respects to the analogous parts met with in man, and that the cells composing these parts were also alike as regards their structure and function

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comparative pathology became an object of close study and observation, culminating in those experimental researches which have influenced to so marked a degree our knowledge of disease snd its treatment.

"Bacteriology.—Meanwhile, as Virchow was pursuing his researches, a branch of biology, surpassing in the interest which sourrounded it, was making steady progress—viz., bacteriology, adding another to the quota which all branches of human knowledgr pay to medicine. We have the authority of Bacon that, even in the day, it, above all the other professions, could claim the palm for learning. How much more can this distinction be claimed for it to-day. When Latin served the purpose of welding all Western races together, it was the language of medical literature. Medicine alone, among the faculties of a university, has an unbroken tradition of over two thousand years from the Greek; it retains even still the relics transmitted to it by the physician of Cos. I have touched on the contributions which it has exacted from the natural and experimental sciences, while to pathological medicine in particular every branch of biology must bring a part of its treasures—anthropology, ethnology, and comparative anatomy. Thus we can see, as has been well said, at one end peoples, nations, and races; at the other tiny specks of nucleated protoplasm, which not alone appears capable of supplementing our knowledge of the larger unit which constitutes the organs and tissues of the body, but the study of which is probably destined, more than any force we know of in Nature, to influence the future of the human race." * * *

"Pasteur's Researches.—The history of bacteriology so far may be said to be written in the life and labors of Pasteur, supplemented by the records of what has been done by Lister, Chauveau, and Koch. There is no tale of Jules Verne which is more capable of exciting the imagination than the story of Pasteur's work. Having demonstrated the dependence of fermentation of different kinds upon different living organisms, which he classified into those that live in air and those to which air is fatal—erobic and anerobic organisms—he formulated his method of dealing with diseases affecting vinegar and wines, and almost at a stroke abolished the maladies affecting both. He next directed his attention to the investigation of the diseases of the silkworm, at the time when the silk husbandry in France was in a state of ruin. Having discovered the minute organisms which caused the disease in the blood of the worm, he followed them through all the phases of the insect's life—through the egg, through the worm, through the chrysalis, through the moth. As by an enchanter's word, at Pasteur's bidding, the disease was almost eradicated. Then came his studies on beer, and subsequently those observations and experiments upon the germ theory of disease which led him to adopt the principle of virus attenuation in the treatment of such diseases as fowl cholera, anthrax, quarter evil, and, finally, hydrophobia. Meanwhile, the clear mind of Lister was seizing upon the germ theory of fermentation and putrefaction, The organisms which produced both were in the armosphere. If they come in contact with an open wound, pus formation was the result. A further fact was established by Lemaire in an adverse criticism of Pasteur's views—viz., that the presence of carbolic acid was inimical to the life of the higher animals and plants, and also to the lower organisms; the addition of a small quantity of carbolic acid to fluids in which fermentation and putrefaction ordinarly take place preventing the incidence of these processes. From these two data Lister built step by step the theory and practice of antiseptic surgery—a theory and practice which have saved thousands of lives and revolutionized the treatment of wounds and the routine of surgical practice."

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"The Action of Bacteria in Disease.—Before leaving the subject I may be permitted to mention an instance suggestive of the role played by bacteria in disease. We know that in the process of fermentation yeast grows and multiplies with extraordinary activity, splitting up the sugar into CO_2 and alcohol, till its further progress is arrested by the alcohol which is a product of its own activity. It is precisely similar with bacteria, when taken into the body as in any infectious fever. The organisms multiply at the expense of the fluids of the body, form ptomaines which, like the formations of alcohol in fermentation, bring the action of the microbes to an end. It is to the presence of these ptomaines in the blood that we may attribute the feverish disturbance that is set up—a disturbance unfortunately that is often fatal to the host as well as to the invader. An interesting experiment serves to show how the cells of the body resist the invasion of bacteria. A small quantity of a culture of known virulence was injected into a rabbit; a local inflammation followed, terminating in the formation of a small localized abscess, but no other bad effects followed: In another rabbit a similar injection was given, but, at the same time, a quantity of chloral was injected sufficient to paralyze the leucocytes; general infection rapidly followed, and the animal very soon died. In this instance it was found that the leucocytes examined on the warm stage showed no change of shape, and were perfectly sluggish in their movements. They took no notice of the bacteria when introduced into the subcutaneous tissues, and these then passing into the lymphatic spaces, ultimately reached the circulation, and so led to their wide-spread diffusion through the different organs with an attendant fatal result. This experiment may be taken as suggestive of the way in which the effects of alcohol taken to excess, or a poisonous influence of a like kind, may lead to an attack of fever, erysipelas, or some septic disease.

"Bacteria in Relation to Animal Plagues.—Two instances may be mentioned to show how the progress made by the bacteriology has been utilized in the removal of animal plagues. Some eighteen months ago a plague of field mice in Thessaly and its neighborhood had assumed such proportions that an entire field

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of corn was destroyed in a night. Loeffler, who has made such important researches in connection with the organisms of diphtheria, discovered a bacterium, the *Bacillus typhi murium*, which is pathogenic for mice of the species *Arvicola arvalis*; the field mice in Thessaly belonged to an allied species. Preliminary investigations showed that the bacillus was fatal to these also. A culture fluid was carefully prepared, and to this were added pure cultures of the bacillus. It was first shown that the bacillus was harmless to all domestic animals and to man. Peasants came from different districts, each bringing with him a basket of broken bread, which was steeped in the inoculated fluid, and the peasants were dismissed with instructions to put into each mouse-hole a portion of bread. The mice ate freely of the impregnated bread, with the result that, after some days, dead and dying mice were found scattered through the field. In less than four weeks the plague had disappeared, and the harvest was saved. Professor Bilgard, director of the research station in San Francisco, records a similar procedure, which rescued the poultry from a destructive 'field bug' of a species akin to the Colorado beetle.

"The Future of Medicine Dependent on Pathology and Bacteriology.—Of the field that is opened up in connection with preventive medicine, and in the treatment of such diseases as cholera, tuberculosis, tetanus, diphtheria, typhoid fever, and infectious diseases generally by the study of bacteriology, it would be at present rash to speak. Much has been done, great advances have been made, and great principles established. It may not be many decades distant when some startling results will be attained. To my mind, it is to bacteriology and pathology generally that we must look for the future of medicine. Fortunately, the methods of inquiry employed, those necessary for the progress, nay, for the existence of the human race, have stood well the strain fomented by misguided and ignorant faddists, but the issues at stake are too vital to be imperiled by what Sir William Gull described as the greatest cruelty in the whole world—the cruelty of ignorance. Experimental physiology and pathology have simply shared the fate which attended great discoveries in science, arts, and medicine. In the last we have had the spectacle of Vesalius, the great reformer of anatomy, being formally cited before the theological faculty of Salamanca, and Servetus being burned at Geneva with his book in which he described the circulation through the lungs. For a considerable time after the discovery of the circulation by Harvey, the treating of his doctrine was proscribed by the University of Paris, and to believe in it led to expulsion from the university and forfeiture of degree. Nor can it be said that the errors taught have been confined to the ignorant. Kant was so blinded by prejudice as to denounce vaccination as 'the inoculation of bestiality.' History is always repeating itself, and so the men of progress in medicine have had to take their share of contumely and bear more than their share of malice and misrepresentation from the anti-vivisectionists. They have stood their punishment, for the most part, with the stoicism of the ancient martyr. Yet the provocation to retaliate has been great. Scarcely any great advance in the doctrine of immunity has been made without the individual workers undertaking the risk of watching in their own persons the effects of inoculation of attenuations of the most deadly poisons.

"Quite recently Haffkeine, in order to test the value of protective inoculation against cholera, inoculated himself with an attenuated virus of the disease. Very considerable constitutional disturbance, lasting for six days and attended with a rise of temperature, resulted. Hankin, and some eight others, also submitted themselves to the inoculation experiments, and with like results."

Rest in Cardiac Affections.—Dr. T. Lauder Brunton belives that as a remedial measure, rest frequently require to be absolute; as a preventive one it may be only relative. The amount enjoined must be carefully proportioned to each case, as in advanced mitral disease, when the power of the heart is failing, absolute rest gives satisfactory results, in that the circulation recovers its ballance, the arteries become filled and the veins emptied, the dropsical effusion and venous engorgement of the organs disappear, and the patient recover a fair amount of health. In cases of mitral disease incompetence may come about from:

1. Enlargement of the auriculo-ventricular orifice.
2. Thickening of the valves, or
3. Incoordinated action of the musculi papillares.

In the first case it may be hard to say if this be the sole cause of the regurgitation, without any obvious disease of the valves,as some disturbance of the relationship between the musculi papillares may tend to aid the regurgitation. In such hearts in growing boys and in chlorotic girls, comparative rest may be useful, and sometimes absolute rest may be almost essential. In some cases the former may be all that is wanted as a prophylactic measure. In chlorotic girls gentle exercise is advisable, but it must be carefully graduated, as exhaustion is likely to do harm. Massage may be useful, as it gives the patient exercise without putting any strain upon the heart. With a fatty heart gentle exercise may be advisable, as it may be more likely to bring about a healthy condition of the heart than absolute rest. When in mitral disease cardiac tonics, even pushed to their utmost limit, fail to give relief, then absolute rest becomes of great importance. Massage is of great usefulness in clearing out the body-waste, quickening the flow of blood through the muscles, and relieving the edema, and the patient gets the advantage of the exercise without overdoing his heart. It also allows the treatment to be carried out more easily than it would otherwise be, for it removes the feeling of weariness and irritability, faintiness and unrest of the patient.—*The Practitioner.*

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ABSTRACTS

MEDICINE.

The Prevention of Scarlatinal Nephritis.—It is true that most writers upon scarlatina say that the diet during the febrile period of the disease should be light and liquid, and that the patients should for about three weeks be zealously guarded against undue exposure to changes of temperature, in order that the cutaneuos functions may be conserved; but beyond this their directions concerning prophylaxis are generally vague and indefinite. Now, while most of the cases of scarlatinal nephritis which the writer has seen have seemed to owe their development to exposures, which acted as exciting causes, he has met with other cases in which all possibility of undue exposure was eliminated, in which the bowels were active, and in which the kidney disease apparently owed its orgin to the inherent exciting effects of the scarlatinal poison.

This cause of nephritis must underlie every case and must exert a predisposing influence to real trouble, the strength of which is in direct proportion to the virulence and to the quantity of the scarlatinous poison acting upon the epithelium of the renal tufts and and tubules, as well as upon the pharyngeal, gastric, and intestinal mucous membranes. Since the violence of this toxic action upon the renal tissues can not always be estimated by the severity of the constitutional or of the local symptoms of the fever, it is certainly a wise precaution to endeavor in each case to lighten the burden of the kidney and to mitigate the poisonous effects of the scarlatinal *materies morbi*. That the former indication may be properly fulfilled by so sustaining and stimulating the functions of the skin as to render this organ's full emunctory powers available by so regulating the diet that comparatively few irrititating excretory products shall pass through the renal epithelial cells, and by calling into action the eliminating power of the intestinal mucous membrane, is self evident.

In proportion, however, as the perspiration is increased and the intestinal emunctory functions augmented, the urinary secretion is lessened, from which it follows that the most rational method of combating the ever-present predisposing cause of scarlatinal nephritis and of guarding, so far as possible, against its attacks, consists in augmenting the watery constituents of the urine at the same time that the cutaneous and intestinal secretions are held at their normal quantitative standard.

The neglect of this latter precaution has seemed to the writer the weak point of the contemporaneous treatment of scarlet fever. While appropriate measures looking toward the prevention of acute nephritis by dilution of the urine may be strictly enforced during the febrile period, they are too apt to be neglected so soon as the fever has subsided and the appetite has begun to crave solid foods.

Yet this is the very time when the eliminating function of the kidneys should be kept most active and when the stimulating character of the urine should be reduced to a minimum, as is proved by the frequent inception of renal inflammation during the desquamative period of scarlatina. This view of the subject having forcibly presented itself to the writer's mind, he cast about for the easiest method of simultaneously fulfilling all the indications above stated.

The current methods of encouraging the normal action of the skin by sustaining an even and moderately elavated temperature in the patient's apartments and by daily lukewarm baths, followed by emollient inunctions, seemed perfectly adequate to the efficient accomplishment of their purpose.

The daily evacuation of the bowels by means of unirritating laxatives assured the maintenance of the important eliminative functions of the intestinal mucous membrane at a normal standard. The chief therapeutic problem which presented itself was therefore the selection of the best method for fulfilling the third essential indication—viz., the dilution and the mitigation of the renal secretion.

A helpful suggestion, found in several books and pamphlets which came within the writers reach, consisted in the recommendation that the milk diet be used, both during and after the febrile stage of scarlatina, with a view to the dilution of the urine and to the consequent prevention of nephritis.

Adopting this suggestion, the writer indeed found that the milk diet yielded excellent results, and that under this system the percentage of cases complicated or followed by nephritis at once fell to a very low figure. His experience at that time and subsequently has convinced him that faithful adherence to a strict milk diet, together with a careful observation of the other prophylactic precautions already mentioned, for a month after the cessation of the fever, prevents the development of nephritis in a large majority of the cases, and is, on the whole, the simplest and best prophylactic treatment of this disease. He soon, however, encountered an obstacle to the invariable employment of this treatment in the irreconcilable repugnance to milk manifested by some patients and by the inability on the part of others to adopt an exclusive milk diet, owing to the supervention of more or less distressing digestive disturbances.

Moreover, it was found that so soon as the patients began to move about their rooms and to engage even in such games and pastimes as were adapted to their enfeebled condition, their nutrition was sometimes hardly maintained at a normal point by milk alone, as was attested by a gradual diminution in their weight and by the persistence of their anemia.

Some modification of this method being therefore frequently desirable, the writer instituted some experiments the object of which was to discover the best dietetic

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and diuretic treatment for the post febrile stages of scarlet fever compatible with the comfort of patients and with the maintenance of their strength.

In reviewing the cases which he has treated since that time, the writer finds that they may be arranged in three categories—viz.

1. Those in which an exclusive milk diet has been well tolerated for a full month.

2. Those in which a mixed diet, consisting of milk and of solid foods, was employed; and

3. Those in which milk was not tolerated in any quantities, and the diet was therefore necessarily composed chiefly of solid foods. In all these classes of cases the eliminating functions of the skin and of the bowels were kept active by the means already favorably mentioned.

To patients of the first class a strict milk diet was administered for a month after the cessation of the fever, from one to two quarts of milk being daily exhibited, according to the patient's age and appetite. At the end of that time the modified milk diet belonging to the second class was adopted for two weeks, after which the solid diet was allowed. Even in these cases a careful watch was kept on the urine for two weeks longer before the cases were entirely released from professional surveillance.

At the beginning of the fever peptonized milk was employed whenever the irritability of the stomach demanded it, and sweet milk was at times replaced by junket, whey, skimmed milk, buttermilk, or koumiss. In the event of the appearance of albuminuria after the adoption of the mixed diet or of solid foods, the milk was forthwith resumed and continued until two weeks after the disappearence of the albuminuria. After that time the mixed diet was used for two more weeks, and finally the solids were again allowed.

The second class of patients embraced those who could only confortably bear a limited quantity of milk. These patients have generally received two solid meals and two or three milk meals daily, the former consisting of clear and not too salty soups, green vegtables, bread and butter, cream, eggs, fish, oysters, chicken, and later a little fresh beef or mutton, roasted, broiled, or boiled.

Strict injunctions were given that with each of these meals a liberal amount of beverage be allowed—such as hot water with a little milk, very weak tea, or slightly sweetend cocoa. The solid meals were given at about 8 and 1 A.M., respectively, and the milk meals at about 5 and 9 P.M., and 2 A.M. in cases requiring nocturnal alimentation.

The third class of patient—viz., those who were unable to tolerate milk in any form without suffering from digestive derangements or losing weight—received the solid foods already enumerated, particular stress being always laid upon a liberal allowance of warm drinks being taken at each meal. In addition to this, a mild diuretic or alkaline remedy was exhibited, with two thirds of a glassful of water after each meal and at bedtime for a month after the cessation of fever. In most instances it seems advisable to vary the diuretic alkaline salt employed from time to time, in order to prevent exciting repugnance or gastric irritation by the too protracted use of any one remedy. The writer has employed citrate, bitartrate, bicarbonate, and acetate of potassium, citrate and carbonate of lithium, and bicarbonate of sodium, in doses varying from five to fifteen grains, in accordance with the age of the patient and the quantity of urine secreted. Since the adoption of this plan of treatment the writer has seen about sixty cases of scarlet fever, and of these, only five cases have been followed by nephristis, which was in each instance slight and transitory.

These results, the credit for which is probably largely due to the therapeutic measures employed, have been so satisfactory to the writer that he has ventured to describe them at length before the society, hoping that those members who will do him the honor of participating in the discussion will furnish data, based upon their own experience, facilitating the elimination of any faults of his method, or justifying the substitution for it of some better plan for the prevention of scarlatinal nephritis.—Wm. H. Flint, M.D. in *Med. Rec.*

Some Facts Concerning the Physiology of Fatigue.—Dr. Hodge of Clark University, Worcester, Mass., began in 1887 a series of experiments to determine the nature and character of the changes due to functional activity in nerve cells (*Amer. Journ. of the Med. Sci.*). The first report of these studies, published in the *Journal of Morphology* is of unusual interest.

The author refers to the fact that all the energy of the body, comes directly from chemical changes and reactions in the individual cells. If we could know the processes which take place in a single nerve cell, it would be the key to all of nerve physiology, from the action of nervous mechanism in an ameba's protoplasm through the entire animal series to the activity of the human brain. The view prevalent up to this time was, that changes could be found in gland cells because they produce a material secretion, also changes would be noted in muscle cells, because of their mechanical work, but in the nerve cells no changes would be found because their secretion was consciousness, a thing outside of physical observation. The fact was not considered that nerve cells contain masses of granular protoplasm, enclosing a nucleus, which exhibits a delicate reticulation, and contains a prominent nucleolus. Why should not the nerve cells have the same life history of birth, maturity, and death, as other cells? Why should it not suffer from want of nourishment, fatigue, and the struggle for existence?

The study of the pathologic changes in the nerve cells was misleading, for the reason that the normal processes were unknown, and no line could be drawn between the normal and abnormal.

Hence the author sought to find what changes occurred in the cells of healthy animals from electrical

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stimulation. Frogs, cats and dogs were used, and one-half of the spinal root ganglia was subjected to electrical stimulation for varying periods of time. Then sections from both ganglia were stained, mounted and examined under the microscope. Some of the animals were put under the influence of ether, and a mild current carried directly to the one side of the optic thalmus and other sections of the brain, and after a time the animal was killed and opposite sections made and examined. The results of a large number of experiments exhibited a uniform diminution and decrease of the size of nucleus of the cells, which had been subjected to the stimulation, and a change from smooth and round to jagged irregular outlines. The reticular appearance was broken up, the cell protoplasm was shrunken in size, and the nuclei was decreased in size. The sections of brain not stimulated showed no changes of this nature. Great care was taken that the electrical current should be within physiologic limits. This inquiry followed, Do similar changes occur in the normal activity of an animal from fatigue? and are they restored by rest and sleep? To answer this, numerous sparrows, pigeons and swallows were shot in the morning as they were going out, and at night when coming home after a day of activity. Sections of similar parts of the brains of the morning and evening birds were compared with each other. In all cases the brain cells of the birds at evening were greatly decreased in size, and the nucleus jagged and of irregular outline. The cell-protoplasm also shrunken, and lessened reticulated appearance. The nuclei also greatly decreased. Honey bees were caught coming out of the hive in the morning and compared with the bees going in late at night. The same differences were noted in the brain cells, showing degrees of exhaustion and fatigue in one, and vigor and health in the others.

These studies conducted with a great accuracy and detail for the purpose of eliminating all errors, seem to point to brain and nerve fatigue as a shrinking of the nucleus and cell protoplasm. Birds identical in appearance shot at night and in the morning brought out this fact, in the shrunken cells at night, and the full rounded cells in the morning. The conclusion is that in sleep the wasted cell recovers its functional changes from fatigue, and the failure of this restoration is the beginning of organic degenerations of all forms and degrees. The cell recovers the bundles of nerve fibers which enter into it, and are lost in the granular substance, and nucleus. Here all the impressions of the external world come in a succession of impulses, and all the outgoing commands are determined.

Something like this decreased and shrinking of cell contents and nucleus are common in old age. It would appear reasonable to suppose that failure to restore the cell contents would be ageing and practical starvation of the body. If physiologic fatigue is functional changes in nerve cells, which can be restored by rest and sleep, scientific inquiry has taken a step forward of deep significance.

Pathologic changes of cells are the constant study of many astute observers, but the changes which follow normal activities are new lands of research.

Dr. Hodge has been for some time making studies of the changes which take place in nerve cells under variations of food and water supply. Also, what changes if any take place in nerve cells from birth to death from old age, from rejuvenation to senescence. These researches will be watched with much interest.

How to Overcome Malarial Influences.—Malaria, by its vexatious persistency, wide distribution, and crafty insidiousness, is much like original sin (*Med. Record*). Both are looked upon as the birthright of most of us, and in such a view are generally accepted with becoming resignation and apathetic complacency. While many with comfortable assurance lull themselves in security when away from swamps and at different altitudes, others claim that the poison is everywhere, even in the highest mountain tops, and still others maintain that there is no immunity save in a purely sulphurous atmosphere in a famous inferno not adapted to living creatures. Its history belongs to that of the world, and its defiance has been chattered in the teeth of every generation from the time our first parents went abroad. So we shall probably have it with us always, and when there is anything new in its history, development, or prevention we are alert with attention and patient with facts. And even when the old story is told anew we listen with eagerness for something we may have missed before, in order that we may keep our consciences clear and our receptive faculties in proper trim.

Indulging in these general reflections we have brought to our notice an abstract in the *Lancet* of Professor Tommasi Crudeli's views on the preservation of human life in malarious districts. As the distinguished writer is an acknowledged authority and has had a large experience with the disease, we may at the start become discouraged to learn that as yet we have no precise knowledge of the real nature of the malarious poison or the means whereby it can be extirpated from the soil of an infected locality. He also tells us that the poison inheres in the soil; that it is under the influence of season, temperature, and rainfall; that it is excited to fresh activity by all measures involving the disturbance of earth long left quiescent; that its ravages have been much reduced by drainage, by the conversion of naked soil into meadow land, and by the erection of houses and laying down of pavements for streets.

He also points out that the traditional precautionary measures long adopted in malarious countries have had two ends in view. viz., to reduce as much as possible the quantity of the malaria ferment which enters into the system through the air breathed and prevent a lengthened abode of the same in the system. The first point is sought to be achieved by avoiding agricultural operations during those hours at which the malarious influence is most potent—viz., about sunrise and sunset. Hence, according to the writer, is really explained the

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much-misunderstood dictum of the ancient Sybarites: "If you wish to live long and well, do not ever see the rising or the setting sun." Another point of the greatest importance is to avoid breathing the air in close contact with the soil, as it can be shown that the malarious poison rises only a short distance in a vertical direction. Thus in the Pontine marshes, an intensely malarious region, platforms four or five metres high are erected, upon which the people sleep in the open air with comparative impunity. In Greece, the jungles of the East Indies, and Central and Southern America, similar devices have been adopted with beneficial results. Another mode of eluding the malaria-laden air in close contact with the ground is to construct the dwellings in such a way that when the door is shut the internal atmosphere is renewed only by strata of the local atmosphere which are near the roofs of the houses. This is managed in some localities by so arranging that the only opening in the outer wall is the door, and all the windows open on an inner yard at a higher level than the ground floor of the house.

It is advisable also to keep the windows of the houses closed in the morning and during the early hours of the evening, especially if any excavations should be going on in the neighborhood. Care should be exercised regarding the effects of placing vases of flowers in occupied rooms. Either these should be entirely excluded from houses when malaria is rife, or the utmost vigilance should be taken to secure thorough ventilation.

Many of these observations are old, and some perhaps are new, at least to a few of our readers. We present them as they are given us, while we cling to our quinine closer than ever.

The Action of Spermin as a Physiological Tonic.—Dr. Alexander Poehl, in 1891, had concluded that his remedy, when used subcutaneously, was a physiological tonic in all kinds of debility, neurasthenia, anemia, etc. He found also that it has a specific action, not only upon the prostate and testicles, but also upon the thyroid, thymus, and pancreatic glands, and in addition upon the spleen and ovaaies, and under normal conditions it circulates as a physiological constituent of the blood. His experiments show that spermin possesses the property, through its catalytic action, of increasing the diminished oxidation capacity of the blood, and of favoring the so-called intra-organic oxidation. He bases this conclusion upon:

1. The behavior of metalic magnesia in the presence of spermin.

2. The restoring of the oxidation capacity of blood when it has been removed by chloroform, nitrous oxide, strychnine, free acids, and pathological urinary constituents.

3. The experiments of Tarchanoff on animals after section of the spinal cord.

4. Clinical observations upon patients suffering from deficient oxidation, anemia, neurasthenia, scurvy, diabetes cachexias, and the great proportion of diseases in which symptoms of auto-intoxication appear, that is, in which the products of retrograde metamorphosis of albumin accumulate in the organism.

5. The results of urinary analysis.

6. Observations on the biological properties of the cholera bacillus, when it was noted that the reduction manifestations which accompany the development of the cholera culture were absent.

The explanation of failures in the relief of certain diseases seem to lie in the insolubility, that is, the inactivity of the remedy. Recognizing the fact that Charcot-Leyden crystals are also composed of sperminphosphate, and that these are found in diseases where deficient oxygenation is a prominent characteristic, as in asthma, leukemia, typhus, pneumonia, and phthisis, the identity of these cyrstals with those of sperminphosphate has been determined, and also the transition of the amorphous to the crystalline form, demonstrated. In this amorphous, difficultly soluble spermin-phosphate he finds the explanation of the failure of spermin to act upon intra-organic oxidation. It was further demonstrated, by the neutralization by phosphoric acid of an alkaline solution of spermin, that this insoluble, amorphous salt was found. Since the phosphoric salts are present in the organism in notable quantity, the acidity of the medium plays an important part in the determination of an active, soluble preparation, or whether the inactive form may be made, by a diminution of the normal alkalinity of the tissues or of the blood. The observations of Kraus are quoted, in which the relationship of the alkalinity of the blood to a decomposition product of lecithin is shown, and also his observation that in typhus, scarlet, pneumonic, and rheumatic fever, and diabetes, the alkalinity of the blood is diminished. Nerve tissue is especially rich in lecithin compounds, and irritation of this tissue results in the diminished alkalinity of the blood circulating through it. And it is quite likely that here the soluble may be changed into the insoluble spermin-phosphate. This fact explains the reason of the diminished intra organic oxidation (auto-intoxication) as the result of disease of the nerves, and gives an explanation of the good effects found after subcutaneous injections in the treatment of these diseases—that is, the oxidation is brought to the normal and the tissues freed from leucomaines. In the uric acid diathesis which accompanies diseases of the nerve and in gastric catarrh we may also expect benefit. At the same time the action of the spermin may be assisted by remedies which increase the alkalinity of the blood, as Carlsbad, Cur, or alkaline waters, Vichy, Bilin, or Ems. *Derliner klinische Wochenschrift; Am. Journ. of the Med. Sci.*

The Influence of Injections of Sodium Chloride upon the Absorption of Fluids.—Drs. G. Gaertner and A. Beck have undertaken to solve the problem whether, after bringing an increased amount of salt into the blood by injections of sodium chloride into the veins, there will be a more rapid absorption of

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water that has been artificially placed in the cavities of the body. Experimentally it has been found that dogs which had received injections of large quantities of sodium chloride bear them without injury to their health, but soon thereafter suffered from great thirst, and took large amounts of water; otherwise nothing abnormal was remarked. The experiments were divided into two classes:

1. The absorption from the intestine.

2. The absorption from the serous cavities. The experiments showed that the over-salting of the blood hastens the absorption of fluid from the intestine and from serous cavities in very considerable quantities; while in from fifteen to thirty minutes in a healthy animal only a relatively small amount of water would be absorbed from a ligatured loop of intestine, in a similar time after a preliminary salt injection the whole or almost the whole of the fluid injected would be absorbed. The investigation as to the pleural cavities and as to the joints gave similar results. The results of the experiments are important because these intravenous injections are harmless and give promise of better results than other methods of producing absorption in conditions which imperil the functions of important organs—in acute hydrocephalus, large pericardial effusions, in profuse diarrheas which are seen in Asiatic cholera, in cholera nostras, and certain intoxications. Theoretically this over-salting of the blood seems to be more rational than the usual intra venous injection, for the latter only removes a temporary danger, while the intestines continue to remove the fluid from the blood. On the other hand, in cholera the objection may be urged that the absorption of the contents of the intestine would be a source of danger to the patient. It may be said that the very poisonous properties of this fluid have not been accurately determined and besides at the height of the disease absorption from the intestine does not take place, and indeed this method does not prevent the irrigation of the intestine to be combined with it. Confirmatory of this theory is a single observation of Topfer, who, in the last epidemic of cholera, sometimes made use of a concentrated sodium chloride injection in place of a physiological one, with the result that these cases showed favorable progress.—*Wiener klinische Wochenschrift; Am. Journ. of the Med. Sci.*

SURGERY.

A New Treatment of Tuberculous Peritonitis.—Dr. W. Nolen having noticed that merely the opening of the abdominal cavity with removal of the tuberculous exudation, even when antiseptics were not used, resulted in cure, attributed this result to change in the condition of the circulation produced by the emptying of the cavity, and to the contact of the air in a chemical, physical, and bacteriological sense. The former cannot explain the result, because simple puncture with complete evacuation does not result in cure; therefore the latter appeared to be the probable explanation. Wegner having shown that the insufflation of air into the abdominal cavities of animals was harmless, he determined to make use of this method, taking the precaution to previously sterilize and warm the air. Three cases are reported in which combined aspiration and air srffiation resulted in success, in the sense that the ascites did not return. The abvantage of this method over a celiotomy are obvious: on chloroform narcosis, no incision worthy of the name, and impossibility of septic infection. The method of performance is as follows: A wash bottle of one quart capacity is two-thirds filled with distilled water, and provided with a rubber stopper, into which is inserted two bent glass tubes, one of which reaches nearly to the bottom of the bottles. This tube connects by means of a rubber tube with a glass cylinder filled with sterilized cotton, which in turn is connected to the short tube of a wash bottle, but of larger capacity. The long tube of this bottle is connected by rubber tubing with an irrigator containing a boric acid solution. The short tube of the wash bottle containing sterilized water is the one to be connected with the trocar, which is used for aspiration. The apparatus—trocar, wash bottle, glass cylinder, intervening tubing—must be sterilized before use. The trocar with its tubing in place is inserted into the abdominal cavity midway between the umbilicus and the anterior superior spine of the ileum, and the ascitic fluid withdrawn into sterilized vessels, the distal end of the tubing being constantly kept under the suface of the fluid withdrawn As soon as this is accomplished, the needle is withdrawn until its distal end can be placed aganist the parietal peritoneum; the end of the rubber tube, pinched together, is removed and connected with the short tube of the wash bottle, the plug of sterilized cotton, with which the tube had been stopped, having been previously removed. The reservoir containing the boric acid solution being now raised about twenty inches, its contents now flow into the empty wash bottle, the air therein contained, being filtered through the cotton contained in the cylinder, bubbles through the warmed, distilled, and sterilized water of the wash bottle and enters the abdominal cavity. As the air enters the cavity it is brought into intimate connection with the peritoneum and intestine by external pressure of the operator's hands. After five minutes the air is removed by aspiration, the reservoir being lowered to accomplish this. Some air can be left in the cavity without harm to the patient. There is no pain produced by the insufflation, and no accidents are recorded. One or two days after the operation the abdomen may show meteorism. The method has been followed in a single instance of tuberculous peritonitis by Mosetig-Moorhof.—*Berliner klinische Woch.; Am. Journ. of the Med. Sci.*

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NOTES AND ITEMS

The Medical Profession and the Hospitals.—This is the time of year when the hospitals of the city recite their deeds to the public and ask for money to carry on their work. It is a time when the question of the utility of this work is presented eloquently to everyone. As a rule, New York responds to the amount of about $50,000. No kind or degree of solicitation is able to raise the sum much above this, and it has in the last year fallen off slightly. New York has forty-seven hospitals, perhaps more if we include the private and semi-private institutions. These hospitals have eleven thousand beds, and the number of patient treated annually reaches up toward a hundred thousand. The number of hospitals and patients treated in them is increasing rapidly. It is safe to say that the amount of work done has doubled since 1875, and there is no sign of a decrease. On the contrary, during the past year large sums of money have been expended in erecting new hospitals or extending old ones.

The same rapid growth has been noted and commented upon in other cities, notably Cincinnati and Philadelphia. In the latter city there are, according to the *Medical News*, thirty-seven hospitals with four thousand five hundred beds, costing $1,300,000 annually. It cannot be denied that the medical profession has begun to look upon this movement somewhat critically, not to say coldly. This is due to several causes. First of all, the treatment of medical men by hospital managers has always been arbitrary, and attended with friction and disturbances. Hospital authorities have heretofore often regarded the medical staff as a kind of necessary evil They have taken advantage of the fact that physicians have desired to become attached to hospitals, to get as much as possible out of them with as little return as possible.The theory that a visiting staff should be paid for its work has been ridiculed, on the ground that plenty of men can be found that will work for nothing. This theory has a certain economic basis, we admit, but it is not an absolute one, otherwise why should it not be applied to positions of honor everywhere. We could get plenty of Congressman, Senators, Presidents, and even judges, to serve for practically nothing. But still a more cogent reason for the growth of an antagonism to hospitals is the way in which they deal with the question of charity patients. It is becoming more and more the habit for surgical operations to be done in hospitals. Even well-to do patient are sent there, paying perhaps nothing, or at any rate a fee very inadequate considering their means and the services rendered. As the *Medical News* says:

"Formerly a young doctor had a chance of being called to attend an accident case happening in his neighborhood. Many a physician has won his way into fair practice through the skill shown in such emergencies. But to day the patrol wagen or the ambulance is as speedily obtained as the nearest doctor, and the case is whirled off to the hospital. It is treated in the dispensary if a slight case, or sent to the wards or a private room, according as the financial condition of the patient seemed to warrant. We have known such men to pay $25 a week for a private room in a general hospital, and demand extra attention of resident and visiting physicans, without even thinking of remunerating one or the other."

In smaller cities the case is, we are informed, even worse. We have met well educated and experienced practitioners who have done much surgical work, and done it well, until the building of some small hospital, which is generally under some special political or religious auspices. This killed the surgical work at once. The spread of the hospital system is thus tending to throw a large amount of medical work every year into the hands of corporations, and the trend is towards nationalization or municipalization of medicine.

Now, this will certainly be disadvantageous to the physician, for it lessens the amount of his remunerative work, and tends to lessen the general skill of the practitioner. It will make the few skilful, the many unskilful and dependent. For all this physicians will have no right to complain, if the general effect is to be beneficial to the public. If the results in enabling more people to get better medical service at a lower rate, without pauperization or loss of self-respect, then we as good citizens must submit to the inevitable.

In our opinion, however, this will not be the result. If the rewards of the profession becomes less, its honors more uncertain, a poor class of men will enter it. If advancement is difficult, ambition will be crushed out. In the end, therefore, the public health will be in the hands of a spiritless and mediocre bureaucracy. Surgeons will be but the machinists of corporation, and physicians clinical clerks to co operative institutions.

We must deplore now, therefore, as we have in the past, the present tendency to the institutionalism of medicine.

The way out of it, as it seems to us, has already in a measure been begun. It consists in physicians themselves having charge of their hospitals and their dispensaries, and in controlling their charitable work. Already two of our teaching institutions have their own hospitals; many, perhaps most, of our eminent surgeons have their private hospitals. The association together of a few physicians and surgeons in good practice enables them to equip a hospital of their own, and renders them independent of the favors of lay hospital-boards.

Perhaps this is not the only or the best way to fight against medical institutionalism, but it seems the most practicable at present. At the same time physicians, as a body, should demand more just treatment from hospital authorities,and should protest against the establishment and support of superfluous medical charities.—*Med. Rec.*

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The Association of American Medical Colleges. — At a meeting of the Faculty of Rush Medical College, held December 7, 1893, the following resolution was unanimously adopted:

Resolved, That Section 5, Article III, of the Constitution of the Association of American Medical Colleges be amended to read as follows: "From students who intend to graduate in 1899 or in subsequent classes, four years of medical study and an attendance upon four annual courses of lectures of not less than six months' duration each, will be required. Provided, that graduates of literary colleges who have taken a course of four years, including study in the natural sciences, and graduates from universities and colleges that furnish a suitable course of scientific studies, graduates of schools of pharmacy that require three years of study and adequate preliminary education, and graduates of dental colleges requiring two years of study and adequate preliminary education, may be admitted to the second year's work or course of lectures in the college without examination"

The present wording of Section 5, Article III., is as follows: "Candidates for the degree of Doctor of Medicine shall have attended three courses of graded instruction of not less than six months each, in three separate years."

The adoption of the proposed amendment will require of all matriculates of the session of 1895 attendance upon four full courses of instruction before receiving the degree of M.D.

Recognizing that the proposed amendment, if adopted would necessitate the formulation of a general curriculum of study for the various branches of the courses, and, perchance, other necessary changes or additions to the by-laws, the President of the Association of American Medical Colleges, Dr. N. S. Davis, has appointed the following-named persons to act as a special committee to prepare a new schedule of minimum of requirements, to be submitted at the fifth annual meeting to be held at San Francisco, at 3 o'clock P. M., Wednesday, June 6, 1894: E L. Holmes, Chairman of the Committee, President Rush Medical College, Chicago, Ill.; Reginald H. Fitz, Harvard Medical College, Boston, Mass.; Victor C. Vaughan, Dean Department of Medicine, University of Michigan, Ann Arbor, Mich.; Wm. Osler, Johns Hopkins Medical College, Baltimore, Md.; Wm. E. Quine, President College of Physicians and Surgeons of Chicago, and President Illinois State Board of Health; P. S. Conner, Ohio Medical College, Cincinnati, Ohio; Dudley S. Reynolds, Hospital College of Medicine, Louisville, Ky.; N. S. Davis, Jr., Chicago Medical College; Perry H. Millard, Dean College of Medicine and Surgery, University of Minnesota, Secretary Association of American Medical Colleges, St. Paul.

The committee will hold a meeting in Chicago, at the Grand Pacific Hotel, at 3 o'clock P. M., Wednesday, February 7, 1894. Colleges that are members of the Association are requested to aid the committee in its work by advice or representation. It is particularly desirable that colleges that are members of the Association should be represented by a formally appointed delegate at the forthcoming session. The proposed amendment, if adopted, marks a most important era in the history of medical education in this country. Colleges unable to be represented by a regularly appointed delegate will confer a favor by informing the Secretary of their attitude on this amendment, to be submitted or made known to the convention before final action is taken. Colleges electing delegates are requested to indicate in their credentials if they have full power to act, and to furnish the Secretary the names of the delegates elected as soon as practicable. Colleges are entitled to one delegate each. A proxy cannot be delegated to a person not directly connected with the college desiring representation.

There are at present seventy one colleges members of the Association of American Medical Colleges.

The constitution cannot be altered or amended except after written notice to all the members at least thirty days previous to a stated meeting, and by a vote of two-thirds of all the delegates present at such meeting.

The Letter of the Law-Sequel of a Celebrated Case.—Rarely is such a measure of interest accorded a legal process by the pharmaceutical and medical world as was aroused some two and a half years ago by the famous Nux Vomica suits in the Atlantic Court of Common Pleas, New Jersey (*Bulletin of Pharmacy*). A brief review of those proceedings and of the curious solution which time has recently effected in the legal complications, will not be devoid of profit.

The plaintiff in both these cases was George W. McGuire, State Dairy Commissioner for New Jersey, and criminal action was brought by him against the two defendants (Harry B. Leeds and Albert D. Cuskaden, druggists, and the expenses of the defense were borne by Parke, Davis & Co.), on the charge that each had sold a quantity of tincture of nux vomica which upon examination was found to contain less than two per cent of dry extracts. This basis of the prosecution was an existing New Jersey statute, which enacted that any preparation shall be deemed to be adulterated if (when sold under or by a name recognized in the U. S. Pharmacopeia) it "differs from the standard of strength, quality, or purity laid down therein." And two per cent extractive, as stated, was the standard of the U. S. P. at that time.

The evidence introduced developed the fact that the tincture had been prepared from normal liquid nux vomica, Parke, Davis & Co.; the plaintiff's witness testified that it contained 0.712 per cent of dry extractive; and upon this the prosecution rested its charge of adulteration within the meaning of the statute, no attempt being made to establish the therapeutic inferiority of the disputed preparation, or any deficiency in the needful content of the all-important alkaloids.

Seldom has such an array of learned talent or such a

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wealth of distinguished evidence been brought forward in defense of any cause involving a pharmaceutical question, as was now adduced by the respective defendants in sustaining their position. Professors Remington, Hare, Rusby, Ryan, Marshall, Dr. Eccles, and the lamented Prof. Bedford, all went upon the stand and declared with one voice that the active constituents of nux vomica are its two alkaloids, strychnine and brucine, alone; that the quantity of dry extractive forms no standard of strength, quality, or purity, and may, in deed, be completely inert—without medicinal property or physiological action; that tinctures of nux vomica made, as was the one in question, from the normal liquid, are far more reliable than the tinctures on the market produced in exact accordance with the U. S. P. formula, since the former are of uniform alkaloidal strength, and the latter subject to extreme variations of medicinal potency; that the U. S. P. standard could be easily evaded by the addition of sufficient glucose to any inferior tincture; and finaliy, that the Pharmacopeia of 1880 really offered no means of determining the "strength, quality, or purity" of the tincture to which the name standard could with any propriety be applied, hence was virtually devoid of such standard.

All for naught. Here the gods themselves would have contended in vain. Conceding the entire probity of the defendants, and the full medicinal value of their tinctures prepared from the normal liquid nux vomica, Judge Reed, nevertheless, decided in the first case that such tinctures were adulterations within the meaning of the New Jersey statute, since the requirement of two per cent dry extractive was not fulfilled! In the second case, some misgivings must have begun to assail the judicial intellect, since the case still hangs suspended in the limbo of the undecided.

But if the Judge showed an undue tenacity in clinging to an obsolete standard, and a disposition to apply the narrow letter of the law, our Pharmacopeia Commission have taken a very different view of the question. In the revised edition (1890) we are happy to observe a radical change in the requirement made of Tincture nux vomica: it is no longer two per cent of extractive, but rather 0.8 per cent of total alkaloids—the identical alkaloidal content which the manufacturers of the normal liquid had long adopted as their own standard for the tincture. The new Pharmacopeia became a part of the New Jersey law on January 1, 1894, thus depriving the cases of all legal basis.

While we may now smile at the emphatic way in which time has rejected the decision of the New Jersey court, it is obvious that its very absurdity from a medical and pharmacal point of view was not without a compensating benefit in promoting the adoption of a rational standard for this and a few other important preparations in the new Pharmacopeia. Inasmuch as five of the witnesses for the defendants were likewise members of the Revision Committee, the agitation imparted to the question of standardization by the nux vomica cases was unquestionably an active agent in the pharmacopeial changes thus far introduced—changes which, it is to be hoped, will be provided with a standard which will guarantee a uniform medicinal action.

The introducers of normal liquids may well feel content with the handsome vindication which their enterprise has received at the hands of the Pharmacopeia Commission, and with the high compliment embodied in the recent adoption of their well known standard for the official tincture.

Eleventh International Medical Congress.—It is announced by the Secretary-General of the Eleventh International Medical Congress that American members will pay on the English, French, and Italian railways single fares for double journeys, and will obtain a reduction of 20 per cent on fares for Italian round-trip tickets.

The documents required for their identification will be sent to Dr. A. Jacobi, Chairman of the American National Committee, in January, and Americans intending to visit the Congress will have to apply to him for them.

Full particulars concerning the journeys will accompany the documents.

Messrs. Thomas Cook & Son, London, Paris, Rome, and Naples, should be applied to for accommodation and for tickets for the excursions to Rome, Naples, and to Sicily, Such excursions will be arranged at Rome under the guidance of Mr. Forbes, member of several scientific societies and correspondent of the *Times*, for Naples, three days, including Vesuvius, Pompeii, Capri, Sorrento, Castellamare, Bajae, etc.; for Sicily, ten days from Naples, including Nessina, Taormina, Catania, Girgenti, Siracusa, Palermo, and return to Naples.

The fares for members of the Congress will be considerably reduced and comprise hotel accommodations, carriages, guides, boats, etc., about 70 francs each for the three days, and 285 francs for the ten days.

Full particulars concerning these excursions will be contained in a leaffet to be added to the instructions and documents for the journey.

The members' fee is five dollars; that of their wives or adult relations, two dollars each. Checks or money-orders may be sent to Prof. L Pagliani, Rome, Italy. Credentials have been promised in the near future. When they arrive (none were received last year) they may be too late for many who have started or are about to start. Dr. Jacobi, who is not informed of the cause of delay, proposes to supply in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. The North German Lloyd has promised to recognize them. It is suggested, besides, that a passport may increase the traveller's facilities.

Only the North German Lloyd (22 Bowling Green) and the Campagnie Generale transatlantique (3 Bowling Green) has thought fit to grant any reductions to Congressists.

The reductions on Italian railways are available from March 1 to April 30.

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Circumcision.—A bill has been introduced into the Ohio Legislature forbidding circumcision.

A Centenarian Who Smoked.—Miss Hulda Arnold died at Milford, Mass., recently, at the reputed age of over 104 years. At the age of 14 she began smoking to relieve the asthma, and thereafter was an inveterate smoker.

The "Medical Review" Visiting List, Perpetual, published by J. H. Chambers & Co., St. Louis, Mo., contains the usual blank forms for daily calls, memoranda, obstetrical and vaccination practice, cash accounts, etc. The first twenty-five pages are devoted to useful hints for the physicians daily use, such as prediction of the day of confinement, poisons and their antidotes, methods of disinfection, care of galvanic batteries, examination of urine, table of doses, diet table for diabetics and diagnostic table of eruptive fevers. It is good for any year and may be begun at any date, and is good until filled up. Mailed, post free, for 75 cents, by the publishers.—North Carolina *Medical Journal.*

Announcement of Early Publication.—"A System of Legal Medicine." A complete work for medical and legal practitioners by Allen McLane Hamilton, M.D., of New York, and Lawrence Godkin, Esq., of the New York Bar, assisted by thirty collaborators of recognized ability. In two royal octavo volumes of 700 pages each. Fully illustrated. New York: E. B. Treat.

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Incontinence of Urine.

℞ Potass. bromid., - - - - - - - - ℥ij.
Sulphate of atropine, - - - - - - - gr.1/6.
Aq. destillat.,
Syrup. aurant, - - - - - - - - aa ℥j.
M.
Sig. Teaspoonful one to four times a day according to age.

Chorea.

℞ Lig. potass. arsenit., - - - - - - - ℈j.
Zi c. bromid., - - - - - - - - - gr.vj.
Aq. camphor, - - - - - - - - - ℥v.
Syrup. simpl., - - - - - - - - ℥j.
M.
Sig. Tablespoonful three times a day, gradually increased.

Nephritic Colic.

℞ Antikamnia, - - - - - - - - - ℈j.
Opii pulv., - - - - - - - - - gr.iij.
Sacch. alb., - - - - - - - - - ℥ss.
M. F. pulv. Divide in dos. No. vi.
Sig. One powder every two hours.

Dysury. (Painful Micturition).

℞ Fl. extr. uvac ursi, - - - - - - - ℥ij.
Lithion. salicylic, - - - - - - - ℈j.
Tinct. opii, - - - - - - - - - ℥ss.
Syrup juniperi, - - - - - - - - f℥j.
Aq. camphor, - - - - - - - - f℥iij.
M.
Sig. Tablespoonful every three hours.

Dyspnea.

℞ Fl. ext. guebracho, - - - - - - - f℥j.
Tinct. strychni, - - - - - - - - - ℈j.
Syrup. aurant., - - - - - - - - f℥j.
M.
Sig. Teaspoonful every three hours.

Eczema of Dentition.

℞ Potass. bromid., - - - - - - - - ℈j.
Syr. rhei,
Syr. aurant, - - - - - - - - aa f℥j.
M.
Sig. Teaspoonful three times a day.

Enlarged Lymphatic Gland.

℞ Maltine with Codliver Oil, - - - - one bottle.
Sig. As directed.

℞ Potass. iodide, - - - - - - - - ℥ss.
Iodi, - - - - - - - - - - - ℈j.
Lanoline, - - - - - - - - - ℥ij.
Vaseline, - - - - - - - - - ℥vj.
M. F. ungt.
Sig. For external use.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

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[CONTINUED.]

VII.—ANTISEPTICS AND THEIR RELATIVE VALUE.

Antisepsis is a condition in which the development of micro-organic life is retarded or rather prevented. The germ is not necessarily destroyed or killed; it is sufficient simply to arrest and prevent its development, its power of exercising the reproductive functions. An antiseptic is an agent capable of preventing putrefaction, that is, the growth of those organisms which cause putrefaction. If the agent also possesses the power *to kill or destroy* organisms, it is germicidal in effect although, of course, antiseptic; because a substance which possesses the power of destroying the organisms which cause putrefaction possesses the power, *ipso facto*, of preventing putrefaction. All germicides are necessarily antiseptics but all antiseptics are not necessarily germicides—all potatoes are vegetables but all vegetables are not necessarily potatoes. In order to demonstrate *antiseptic* power it is only necessary to demonstrate or show that the substance is capable of preventing the exercise of those functions of bacterial activity which usually result in decay or putrefaction. The germ is thus rendered innocuous or harmless by inhibition of its normal vital activity. When the inhibiting condition, the actual presence of an antiseptic substance, is removed then the interrupted processes may supervene. Thus alcohol, sodic chlorid, sodic tetraborate, ferrous sulphate and many other substances commonly used as germicides do not, even in concentrated solutions, destroy the spores of various germs, hence they are not true germicides. The true germicide kills or destroys the microbean element, rendering future development an impossibility except by renewed infection. The action of an antiseptic is very similar to that of judicial incarceration, in which the offending entity is isolated and shorn of his social and political functions—he is rendered incapable of doing harm Germicidal action on the other hand is somewhat analogous to judicial execution—the offending entity is destroyed. An antiseptic substance must not only have the power of preventing the growth of putrefactive organisms but must also be capable of exercising such restrictive power even in culture media favorable to their growth, development and proliferation.

So many persons discuss asepsis and antisepsis as though antithetical terms. Asepsis is, of course, a desirable, an ideal condition and antisepsis is a means to that end. Most wounds and injuries are infected before coming under the care of the physician or surgeon, there is no possibility of asepsis, in a strict sense. The germ has already gained access, no opportunity having been offered the physician to exclude it. Infection is so exceedingly insidious, even in conditions where everything seems favorable to the success of aseptic procedures, that it certainly seems rational to err, if at all, upon the safe side by a conjunction of asepsis and antisepsis. In so-called aseptic procedures everything is dependent upon sterilized dressings, sterilized instruments—sterilized by what means? Either by the *antiseptic* action of moist heat or by the use of antiseptics themselves. It is exceedingly difficult to say where asepsis ends and antisepsis begins, for asepsis is usually attained by an *antecedent* antisepsis.

Undoubtedly the greatest of all antiseptics and germicides is health. It is only when the natural and normal efficiency is vitiated that Nature becomes dependent upon Art. The healthy tissues of the human body neither harbor infectious organisms nor favor or aid their subsequent development when introduced. Indeed there cannot now be the slightest doubt but that the highest type of histologic vitality, which we commonly term health, is highly prejudicial to the action of pathogenic bacteria. Furthermore when such have been introduced within the system, either by accident or design, they are quickly destroyed either in the circulation or tissues or else discharged through the various emunctory channels. Cunningham and others have proven that bacteria are frequently destroyed in the blood; Vaughan too has demonstrated the germicidal

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power of the nuclein of blood-serum. Wyssokowicz claimed that those organisms which are not destroyed rapidly in the blood are deposited materially in the tissues, just as is done in the case of particles of pigment. He introduced anthrax bacilli, in small quantities, into the blood of rabbits and found that they disappeared in twenty-four hours; he claimed however to have found them deposited in large numbers in the liver and the spleen. Cheyne, Ogston, Ribbert and others have proven the possibility of excretion of germs by the genito-urinary tract, demonstrating their actual presence in the kidneys and urine. It has also been proven that germs may be excreted by the mammary, and possibly also the parotid glands. Indeed Passet and Longard have shown that, in the case of mice at least, it was possible for cocci to be excreted by the conjunctival membranes.

The medical literature of the past few years contains many references to the germicidal properties of blood-serum. May there not have been something of fact as well as fancy in the results ascribed to the old-fashioned and almost obsolete practice of sending invalids with impaired vitality to *abattoirs* to partake freely of the warm, freshly drawn blood of recently slaughtered animals? Not only has the blood-serum germicidal properties but those of different animals vary in the intens ity of their powers. Thus the common domestic rat is highly resistant to the action of most bacteria which are pathogenic in their effects upon the human organism.

So it seems that all of the normal functions of the body work together for its good in the preservation of its hygienic and vital activity. When we consider how slight a cause may interrupt the normal operations of this delicate and highly complex machine called the human organism, how careful and watchful of its health we should be. These natural conditions and beneficient tendencies of the organism may be perverted by various causes such as injury, cold, inflammation, embolism, local or general depression of vitality, etc. For centuries men have climbed mountains, crossed oceans, bridged chasms, delved into the bowels of the earth, burned the midnight oil, courted death in a thousand forms in a vain and endless search for the illusive and delusive "Elixir of Life." All this time they labored in ignorance of the fact that the treasure sought lay constantly within their reach—nay, more—pulsing through their very beings. And yet—and yet—they found it not.

For the most favorable development of germs and an exercise of vital activity certain physical conditions are necessary. Thus there must be (*a*) a certain degree of temperature, (*b*) a certain degree of moisture and (*c*) a suitable nutrient medium; a combination of these three conditions produces ideal surroundings for the development of micro-organic life. The growth and development of germs can then be restrained physically by (*a*) elevation of temperature, (*b*) depression of temperature, (*c*) absence of nutrient media, and (*d*) absence of moisture—indeed they can be destroyed by sufficient elevation of temperature. Clearly then, where surroundings are favorable, even physical conditions may sometimes be used as antiseptic agents. Some few germs, however, are able to multiply at the freezing point (0° C., 32°F.), while others possess powers of proliferation at temperatures as high as 60°–70° C., (140°–158° F.)—we must remember in this connection that the freezing point is zero on the Centigrade scale in common *scientific* use and thirty-two degrees above zero on the Fahrenheit scale which is in commen *domestic* use; and that the temperature at which water boils is one hundred degrees above zero on the Centigrade scale and two hundred and twelve degrees above zero on the Fahrenheit scale. The temperature favorable for the growth of most bacteria is 20°–40° C., (68°–104° F.), but as a rule most parasitic species require a temperature of 35°–40° C. (95°–104° F.), that is about the normal bodily temperature. In very high elevations of bodily temperature, if the blood be not altered, its germicidal power is increased owing to the inhibiting influence of elevated temperature; this advantage is inappreciable however because of the concomitant depressed vitality of the body itself. Let us proceed then to a consideration of the virtue of physical agents as antiseptics.

Cold.—The weight of experimental evidence goes to show that low temperatures do not usually kill bacteria, although elevated temperatures do. Frisch (1877) exposed various cultures to a temperature of 87° C. *below the freezing point*—he obtained this exceeding low temperature by the evaporation of liquefied carbon di-oxid. Even after exposure to such a degree of cold he found that micrococci and bacteria multiplied abundantly when again placed under favorable conditions. Prudden found that some species resisted low temperature while others did not. He based this latter conclusion upon the fact that some bacteria died, although he did not clearly prove such to be the result of the low temperature. As Sternberg aptly says, there would probably have been a similar diminution in the cultures, more especially if old, owing to an exhaustion of pabulum; this of course might be independent of freezing for bacteria, like higher plants, die in time—indeed continued vitality depends upon continued reproduction. Prudden also found that repeated freezing and thawing was more fatal to some forms, such as the typhoid bacillus. Cadeac and Malet kept portions of a tuberculous lung frozen for four months; at the end of that time the injection of even a small quantity into guinea-pigs, was capable of producing tuberculosis in the animal so inoculated and infected.

Moist Heat.—The burden of experimental evidence seems to indicate that the thermal death point of bacteria is comparatively low when subjected to the influence of *moist* heat. Indeed a large number of pathogenic organisms are killed by exposure to temperatures of 55°–60° C. (131°–140° F.) for ten minutes; some are killed at even slightly lower temperatures and by extending the *time* of exposure it is exceedingly probable that

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somewhat lower temperatures still may effect the same result. Non-pathogenic bacteria as a rule require higher temperatures, such as 58°–65° C. (136.4°–149° F.), and some even higher still to effect their destruction. Globig has obtained several species, from the soil, which grew at 50°–70° C. (122°–158° F.), while Miquel (1881) found a motionless bacillus in the water of the Seine which grew luxuriantly in bouillon at 69°–70° C. (156.2°–158° F.).

The resistant powers of spores are, as a rule, greater than those of germs themselves; however, these resistant powers vary in strength among the various species. Even the spores of all known pathogenic bacteria are quickly destroyed by exposures (even though short, Sternberg says that five minutes is fully sufficient) to a temperature of 100° C. (212° F.), namely that at which water boils. The spores of the *Bacillus anthracis*, the most resistant and tolerant of all the commoner pathogenic organisms, are killed in four minutes by exposure to moist heat at 100° C. (212° F.). The results obtained by Yersin and Sternberg seem to indicate that the spores *Bacillus tuberculosis* are destroyed by an exposure of ten minutes to a temperature of 70° C. (158° F.), although Voelsh claims that a temperature as high as 100° C. (212° F.) is insufficient for this. We may however reasonably and certainly rely upon the fact that exposure to moist heat at the boiling point (100° C. or 212° F.) is sufficient to destroy all pathogenic germs and spores in a few minutes. Some non-pathogenic germs and spores resist this temperature but being non-pathogenic in character (that is, incapable of causing disease) the fact possesses little practical importance to the physician and surgeon.

Dry Heat.—Koch and Wolffhuegel (1881) fully demonstrated that when micro-organisms are exposed, in a dessicated condition, to the influence of dry heated air a higher degree of temperature is required for their destruction than when they are moist, or exposed to the action of hot water or moist steam. These deductions were reached as the direct result of experiments made with a large number of pathogenic and non-pathogenic species.

Exposure for an hour and a half to a temperature of 78°–123° C. (172.4°–253.4° F.), and for one hour to a temperature above 100° C. (212° F.) failed, in the case of *dry* heat, to kill various non-pathogenic germs but did destroy the bacteria of mouse septicemic and rabbit septicemia. A temperature of 120°–128° C. (248°–262.4° F.) and an exposure of an hour and a half was required to insure the destruction of all species treated in the absence of spores. The spores of *Bacillus anthracis* and *Bacillus subtilis* resisted this temperature, requiring a temperature of 140° C. (284° F.), and an exposure of three hours to effect their destruction. But this temperature is decidedly injurious to bedding, clothing, and most of the commoner domestic objects requiring disinfection. Since the specific germs of diphtheria, typhoid fever, erysipelas and cholera do not form spores, objects infected by these diseases may be disinfected by dry heat at a temperature of 120° C. (248° F.) and an exposure of two or three hours.

Dry heat is not only less active than moist heat but is also less penetrating, especially so in the case of folded blankets and other articles fashioned of poor conductors of caloric. Koch and Wolffhuegel demonstrated this by placing registering thermometers within folded blankets and various packages. After exposure for three hours in a hot air oven to a temperature of 133°C. (271.4°F.) the thermometers showed that a sufficient temperature to kill bacteria had not been attained internally. Rohe conducted similar experiments, subjecting rolls of blankets to a temperature of 280°F. (137.8°C.) for three hours; he found that they were but very slightly affected in their interior.

Hence it seems that moist heat is much more effective as a germicidal agent than dry heat. In the case of moist heat the liquid pierces or penetrates mechanically thus carrying the heat to every portion; it must be evident then that to secure thorough disinfection of clothing, blankets, sheets, etc., boiling is necessary.

Dessication.—Cultures in the moist condition may retain their vitality for a considerable length of time. Paul says that the typhoid bacillus has retained its vitality more than six months. Dessication is however quickly fatal to some pathogenic bacteria, such as the cholera spirillum which Paul says perishes after dessication for one half hour at the ordinary temperature. The typhoid bacillus withstands this treatment for eight or ten weeks, the bacillus of diptheria four or five months and the bacillus of tuberculosis five months. Spores however retain their vitality, even in a dessicated condition, for a great length of time.

Light.—Downes and Blunt (1877), in a report to the Royal Society of London, first called attention to the fact that light has an injurious effect upon bacterial life—indeed they even claimed that cultures might be sterilized by exposure to direct sunlight. Tyndall verified these claims to some extent by experiments showing that development is restrained at least by direct exposure. This does not seem altogether improbable when we remember that many of the bacteria are lower forms of vegetable life devoid of chlorophyll and on this account would thrive better in absence of direct sunlight. Then too we know that light undoubtedly has certain definite actinic and chemic powers.

Gaillard's experiments seem to conclusively prove the germicidal power of sunlight in the presence of oxygen. Geisler thinks that such effects are partially due to the action on the gelatin culture media and Koch confirms this result with his experiments with the tubercle bacillus.

Sternberg says that exposure to sunlight is one of the most potent and the cheapest of agents for the destruction of pathogenic bacteria and is a practical and valuable hygienic measure.

Electricity.—Attempts have been made recently to utilize this force for the destruction of germ life. Recent experiments make it seem doubtful that the elec-

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tricity acts directly; if so, strong currents and moderately long exposures are essential. It is, or seems reasonably certain, that the chief virtue of electricity lies in the virtue of the products of its electrolytic action. For instance the decomposition of aqueous media would yield *nascent* oxygen and hydrogen, the former of which possesses undoubted antiseptic value.

The number of antiseptic substances proposed and recommended by various authors and experimenters is considerable and is furthermore constantly increasing without cessation. It is important then that the physician and surgeon should be moderately familiar with these substances, or their comparative values at least. These different products do not act uniformly in their resistance to different pathogenic micro-organisms; one agent may be exceedingly active against one species and inert towards other. Then again spores are often and indeed usually more resistant than the parent germ. Not only do becteria vary in their resistive power to the action of antiseptic substances but the activity and value of the latter may be influenced by various sur rounding conditions. Chief among these are the nature and quantity of the material with which the bacteria are associated. Some disinfectants act by an oxidation of the offending entities and a mutual destruction of the germ and germicide results, as is the case with potassic permanganate. But this substance oxidizes organic matter of all kinds; hence, if organic matter exists associated in quantity with germs the value of the germicide may be impaired because it may oxidize the organic matter and be itself destroyed before the bacteria are affected. Then again we must consider the chemical nature of the substances thus associated with bac teria. For example, silver nitrate is a very efficient germicide and antiseptic but if used to disinfect urine its germicidal efficiency would be highly impaired if not entirely counteracted by the action of the sodic chlorid of the urine upon the silver salt, the latter be ing precipitated as an insoluble and comparatively inert argentic chlorid, thus—

$$Ag\,NO_3 + Na\,Cl = Ag\,Cl + Na\,NO_3$$

Moreover the presence of albumin may inhibit the action of mercuric chlorid ($HgCl_2$) and other metallic salts. Van Ermengem states that the spirilla of cholera are destroyed *in bouillon* in one-half hour by mercuric chlorid in the proportion of 1:60,000; while *in blood-serum* a proportion of 1:800 was required to effect the same result that is, a solution nearly seventy five times as strong in the latter case as in the former. Why is this? Bouillon, as has been conclusively proven, consists chiefly of the extractive salts of beef, it contains little or no albumin, being analogous in chemical composition to urine. Blood-serum is rich in albumenoids—the inference is obvious.

Some agents are rapid in action, others extremely slow. Then again different species of bacteria require different exposures, some of short duration while others require a lengthy exposure; this is on account of the varying resistive powers. Nissen found that a solution of "chloride of lime" (the *hypochlorite* is what is really meant) containing .12% destroyed anthrax bacilli in one minute and the cholera spirilla and typhoid bacilli in five minutes. Other agents might require several hours. As a rule the stronger the solution the shorter the time of exposure required and *vice versa*.

The temperature at which an exposure is made may directly affect the result. Very high temperatures inhibit vital activity (and indeed may even destroy), hence under such conditions of restraint of resistive power we would naturally expect to find the germ especially susceptible to antiseptics.

The number of antiseptic substances is legion and as no definite and rational method for grouping them has as yet been devised, perhaps an alphabetic arrangement may prove most convenient for their individual consideration.

[TO BE CONTINUED.]

Disorders of the Tear Passages and Their Treatment.

BY J. ELLIS JENNINGS, M.D.,

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When one considers the frequency of disorders of the tear passages and the dire results which often follow neglect or bad treatment, it is a matter for regret that so little attention is given to the subject. When a lachrymal case presents itself the physician, remembering the unsatisfactory result of former cases, shakes his head and orders a few drops of a mild eye lotion to be used three times a day; or if he be undaunted by past failures, the canaliculus is slit up from punctum to lachrymal sac, the knife carried down into the nasal duct and the tissues divided in every direction to free a possible stricture. A profuse hemorrhage follows and the doctor declares that the duct is open. At successive sittings, probes increasing in size are forced down into the torn and bleeding duct until the physician is satisfied or the patient, thinking that the cure is worse than the disease, gives his office a wide berth. As a consequence of this plan of treatment, which I regret to say is recommended by some men of eminence, the stricture is sure to reform and the physiological function of the tear passages forever destroyed. The patient becomes the subject of a stillicidium and catarrh of the lachrymal sac. The purulent discharge causes a chronic inflammation of the lids and conjunctiva and is very apt to complicate any eye operation performed at this time.

Before undertaking a lachrymal case one should keep in mind the mechanism by which the tears reach the nose. By the act of winking or closing the lids the

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tears are forced toward the inner angle of the eye and if the punctæ are in perfect opposition to the eyeball the tears are taken up and conveyed into the lachrymal sac. The sac and duct are emptied probably by a combination of forces, viz.: gravity, tonicity of the walls of the sac and duct, and the rarefaction of the air in the nose during inspiration.

To allow free drainage it is only necessary that the punctæ, canaliculi and duct be patulous; and any interference, such as slitting up the canaliculus to its full extent and dilating the duct by means of large-sized probes, only tends to make matters worse. I have often seen stillicidium and mucocele present, where the largest sized probes passed easily into the nasal fossa, showing that it is not dilatation that is wanted so much as it is a return to as near the normal state as is possible.

A universal symptom of lachrymal disorders and the first to attract the attention of the patient, is watering of the eyes. It may be due to an increased secretion of tears (epiphora) or some anomally of the tear passages that prevents excretion (stillicidium).

Epiphora occurs physiologically in weeping or may be caused by a particle of dirt or cinder lodged under the lid or on the cornea, cold winds, smoke, bright light, eye-strain, improper glasses, coryza, trichiasis, catarrhal or granular conjunctivitis, etc. We often observe it to a marked degree in phlyctenular keratitis.

In the normal state the secretions, to a great extent, are evaporated as soon as they reach the surface of the eyeball and only a small portion passes down into the nose. When, from some external cause or reflex irritation, an increased flow is set up, the excretory apparatus is found wholly inadequate to the increased demands made upon it and as a consequence the tears roll over upon the cheek. In passing I may say that in the treatment of epiphora it is obvious that the removal of the foreign body, tinted protective glasses to shut out the bright light, etc., or the treatment of the catarrhal condition, will have a most happy effect.

We now come to speak of the disorders of the tear passages that prevent excretion, viz., malposition of the punctæ, obstruction of the punctæ and canaliculi, acute and chronic inflammation of the lachrymal sac and stricture of the nasal duct.

Malposition of the punctæ, usually the lower, is most frequently the result of neglected catarrhal conjunctivitis or blepharitis marginalis. The displacement may range from slight eversion to a most extensive ectropion. The catarrhal inflammation causes a thickening of the conjunctiva about the punctum which prevents its physiological action and the constant falling of the tears upon the cheek results in a chronic eczema. The skin of the lid is contracted and the punctum drawn outwards. This contraction, unhappily, tends to increase, and more and more of the inflamed and sensitive conjunctiva is exposed to view.

In long-standing cases the conjunctiva becomes thickened and indurated and from constant exposure to the air, loses, to a great degree, its sensitiveness to external objects.

Treatment should be directed toward the cure of the chronic conjunctivitis or blepharitis which has caused the eversion. The skin of the lid and cheek should be protected from further irritation by the daily use of oxide of zinc ointment. The tendency toward ectropion should be counteracted by applications of silver nitrate, 5 gr. to ℥j, to the inner surface of the lid every other day. Before applying the caustic the lower lid should be drawn down and its inner surface carefully dried with a small piece of cotton wool. This allows the silver to come in direct contact with the conjunctiva. It is often a useful procedure to secure the lid in as near the normal position as possible by means of a compress and bandage. If one has to deal with an ectropion of long standing the above methods of treatment will not suffice and it becomes necessary to resort to one of the numerous operations for its reduction. In many cases, despite treatment, it will be found impossible to bring the parts back to a healthy condition. The conjunctiva is thickened and indurated and the punctum receding and atrophied. To relieve the stillicidium the point of a Weber's knife should be introduced into the punctum and the canaliculus slit up about an eighth of an inch. The edge of the knife should be directed upwards and backwards, so that the tears have will easy access to the little channel you have made.

Obstruction of the punctæ and canaliculii.—The punctæ and canaliculi may be absent congenitally or as the result of burns, inflammation or ulceration.

They may be atrophied or plugged up by a foreign body or the fungus streptothrix foersteri.

Treatment.—When the punctæ and canaliculii are found to be absent an attempt must be made to open up a channel into the lachrymal sac by an incision along the known course of the canal. It should be kept open bo the frequent passage of a probe or the insertion of a style.

Where the canaliculus is contracted it should be dilated by probes or by electrolysis. This latter method, first recommended by Jessop and Steavenson, is as follows.

A small platinum probe is introduced into the canaliculus and connected to the negative pole of a Stohrer's battery; a flat electrode, connected with the positive pole is placed on the back of the neck. A current of from two to four milliamperes applied for a period of thirty seconds is sufficient.

Stricture of the Nasal duct is accountable for the major portion of lachrymal disorders.

It usually ocurs as the result of the extension of a catarrhal inflammation from the nose. A stricture may occur at any point in the course of the canal but is most commonly found at the upper extremity where the duct joins the lacheymal sac or below at its termination in the nose.

The formation of a stricture is a gradual process covering a period of months and even years.

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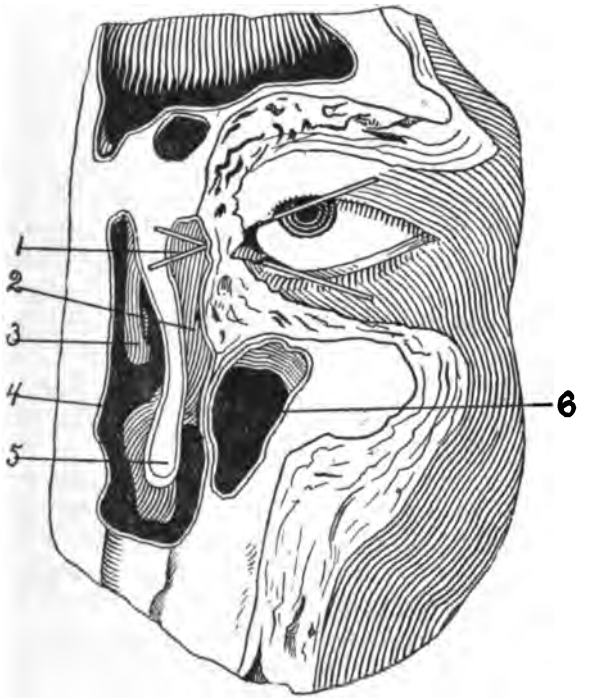
A severe cold or coryza may cause a blocking up of the duct for a few days but it becomes pervious again as soon as the acute catarrhal condition subsides. After repeated attacks of this kind, however, the mucous membrane becomes so much thickened that the duct is completely blocked at some point and the stricture be comes permanent. As long as the tears are able to pass down into the nose the patient suffers little inconvenience and there are no symptoms which give a clue to the process going on in the duct. But as soon as it becomes blocked we observe the first symptoms of, *Blenorrhea or Chronic inflammation of the lachrymal sac.*



Transverse section of face from above downwards and slightly backwards from frontal sinus to first molar tooth. Bristles were passed through punctæ and canaliculi into lachrymal sac. (Berry).

1. Lachrymal sac.
2. Nasal duct.
3. Middle turbinated process.
4. Nasal cavity.
5. Inferior turbinated process.
6. Antrum of Highmore.

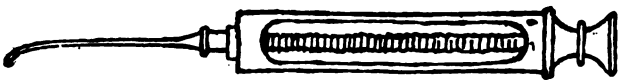
The tears, finding the natural channel closed, brim over upon the cheek. This stillicidium becomes annoying when the patient attempts to do any close work or goes out into the cold atmosphere. Thinking that he must have caught a little cold, the tears are wiped away and no further attention given to the matter. After a time a slight swelling is noticed at the inner angle of the eye, which the patient finds he can reduce by pressing over the sac once or twice a day. But the tears continue to collect in the sac and the micro-organisms, carried in from the conjunctiva, find a fertile soil for growth. Now the patient becomes alarmed, for when he presses on the sac a muco-purulent discharge exudes from the punctæ. If not treated, this condition of affairs may go on indefinately but the patient, as a result of exposure to cold, etc., is always liable to attacks of *Acute dacryocystitis.*

Inspection shows a circumscribed swelling over the region of the lachrymal sac. It is hard, inflamed and angry looking and the slightest pressure is extremely painful.

The cornea, conjunctiva and lids appear red and edematous so that a perfunctory examination might lead to the diagnosis of erysipelas. But the history of the case and the tumor in the region of the lachrymal sac should be proof against error.

Not only the mucous membrane but the submucous tissue about the sac is involved. The pent up pus finding no outlet breaks down the wall having the least resistance and opens below the orbicularis muscle. After the purulent material has drained away the inflammation subsides and the opening either heals up or a small fistulous opening remains.

Dilator


Syringe.

Treatment and chronic dacryocystitis and stricture of the nasal duct resolves itself into a removal of the stricture by probing and a restoration of the parts to a normal condition by means of antiseptic and astringent injections. Remember that success greatly depends upon patience, gentleness and a deft hand. The instruments necessary are a Nettleship's punctum dilator, a small syringe and No's 3, 4, 5 and 6 of Bowman's probes. My lachrymal syringe is an ordinary hypodermic syringe fitted to a slender silver nozzle, with a slightly oval tip. The nozzle can be bent to any desired curve, the most useful of which is that shown in the drawing. I consider Anel's syringe far too clumsy an instrument for the delicate manipulations necessary in syringing out the lachrymal passages.

With three fingers engaged in the rings of Anel's syringe, there is no support for the hand when the piston is driven home, and in consequence the point of the nozzle is often pushed through the mucous membrane.

With my syringe, the thumb and second finger support the instrument; the third and little finger rest upon the brow to steady the syringe and keep its point free, while the fore finger drives the piston slowly home. In using the dilator and syringe the surgeon should stand in front, so that when the syringe is emptied, the head of the patient may be tilled forward and the fluid allowed to drop out of the nostril. If no attention is paid to this point, the fluid will run back into the pharynx.

When it is necessary to pass a probe the best position is behind, with the head of the patient resting against the surgeon. Before beginning operations, a few drops of a 2 per cent solution of cocaine should be applied to

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the conjunctiva in the region of the lower punctum. Then holding the dilator like a pen, the lower lid is drawn down and toward the temple by the thumb of the other hand and the point of the dilator inserted into the punctum. The instrument is now turned to a horizontal position and gently pushed along the canaliculus toward the nose. As soon as the punctum is dilated sufficiently to admit the point of the syringe, the dilator is withdrawn. The syringe, previously charged with a solution of Boracic Acid gr. xx to ℥i, is now introduced along the canaliculus until the point of the nozzle is felt to be in the lachrymal sac. The barrel is then turned upward, just as though you were about to introduce its point into the nasal duct. At this stage the patient is requested to lower his chin, and the piston is slowly forced home. If the duct is free the solution drops out of the nostril into the towel which the patient is holding a few inches below the nose. Thus you can readily see if the fluid really does drop from the nostril or whether it regurgitates through the punctum and rolls down along side of the nose.

If the solution passes freely you may be sure there is no stricture and it will not be necessary to pass a probe. If the fluid does not pass the duct should be explored with a No. 3 Bowman probe.

We now take our stand behind the patient and pass the probe along the canaliculus until it enters the sac and we feel its point touch the nasal side of the cavity. It is now turned downward and slightly backward in the direction of the nasal duct, and pressed slowly onward until we encounter the obstruction.

In the vast majority of cases, gentle, steady pressure will break down the stricture.

When this is accomplished the duct should be syringed out. The fluid may be tinged with blood or perhaps, a sharp hemorrhage follow. If fluid does not pass you may be sure that there is another stricture at the lower extremity of the duct which it will be necessary to remove. A mistake that is often made when introducing a probe is to turn its point down before it touches the lachrymal bone. Sometimes the canaliculus is contracted and the probe sticks: If it is now turned down and any force used you are sure to make a false passage and do considerable damage to the surrounding tissues. The probe must enter at least half an inch before the wall of the sac is reached. When it really does touch the bone there is no mistaking the fact and one can push downward with some degree of confidence.

This confidence is doubly essential at this point owing to the fact that most strictures are situated at the entrance to the duct.

After you have secured a free passage into the nose the patient should be seen daily or every other day, and the duct syringed out. If the fluid does not drop from the nostril the duct must be gradually dilated with Nos. 4, 5 and 6 sounds. I do not think it advisable to use higher numbers as they mutilate the parts and destroy the tonicity of the duct walls.

Some surgeons leave the sound in situ for half an hour at each sitting and at the German Clinics one often sees a dozen or more patients with sounds projecting from their nasal ducts. Way back in the fifties it was the custom to leave the sound in place for a week at a time, the upper extremity being fastened to the brow by means of a strip of plaster.

I usually remove the sound at once.

As regards injections, dilute liquor potassæ ℥i to ℥i will be found the best when there is a profuse discharge of muco pus from the sac. After that has disappeared I use a sol. of zinc sulph. gr. ii to ℥i or alum gr x to ℥i.

Never use an astringent injection before probing, as it so reduces the caliber of the canaliculus that a sound cannot be introduced.

When a stricture stubbornly recurs or where it is impossible to see the patient at frequent intervals a style should be inserted after slitting up the canaliculus. I select the upper, because it is more in the direct line of the duct and is less important than the lower as a channel for the tears. A style may be made of lead, silver or gold, should fit easily and be provided with a small knob at the top so as to prevent it sinking into the duct. The patient should return every few days to have the duct cleansed and the style replaced. If the style causes no irritation it may be worn for months at a time with perfect comfort. At intervals a small portion should be cut off the lower end and if no relapse follows this procedure, the style may be laid aside altogether.

In the early stages of *Acute Dacryocystitis*, an attempt may be made to abort the attack by probing and syringing out the sac with antiseptic solutions. But if the case is far advanced the abscess should be opened by a small incision through the skin and the pus allowed to drain away. After the acute symptoms of inflammation have subsided the duct should be probed and treated as above mentioned and the opening through the skin will heal up without further trouble.

2942 Washington ave., St. Louis.

The "National Zeitung" says that Pofessor Koch, the bateriologist, will shortly publish an exhaustive work on an improved method of using tuberculin, and the diagnostic properties thereof. The work will also treat of the recognition of the first stages of consumption.

Chemic Glassware.—The Board of General Appraisers at New York have decided, in the matter of the protest of Eimer ond Amend, heard Oct. 25, 1893, that 1, crystallizing dishes made of thin, Bohemian glass and used for crystallizing salts, chiefly in laboratories; 2, glass beakers, or dishes with glass covers, used exclusively for growing bacilli germs therein; and 3 glass mortars and pestles, such as are chiefly used in laboratories, are commercially known as "chemical glassware," and when for use in laboratories, are dutiable at 45 per cent ad valorem.

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EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

All letters containing business communications or referring to the publication, subscription, or advertising department of this REVIEW, should be addressed to 914 Locust Street, St. Louis.

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Ought Reporters to be Admitted to the Meetings of the St. Louis Medical Society?

We are not from principle against the admission of reporters to the meetings of that body, but the line ought to be drawn somewhere. There is a tendency in all reporters to enhance, intensify and adorn all incidents of a personal, spicy or sensational character, when they happen at a doctor's meeting. Nothing can be said against this time-honored custom. It has existed in the professional scribes long before reporters existed. It is a justifiable and recognized peculiarity of that guild. But there ought to be a limit.

In last Sunday's (February 4,) *Republic* a specimen of that sort of farcical fake-reporting appeared, which disgraces the calling of a reporter, but which seems of late to have become the dominant and favorite style.

The meeting was a turbulent one, as meetings of live bodies will be from time to time. This afforded the callow youth representing the paper named a much coveted opportunity of letting his light shine as a humorous writer. To what extent he succeeded and what his conception of a reporters work is may be seen from this sample:

"Dr. J. H. McIntyre then uncorked a gallon glass jar and drew forth a beautiful tumor, about which he was talking in what would have been a most edifying manner to Cicero. Someone suggested that it was a shame to abuse a dead language, and Dr. Lewis objected to anyone delivering lectures about imperishable specimens which were not on the programme."

"Dr. McIntyre was allowed to juggle with the tumor for a few minutes longer when a colleague let loose a 40-yard tape worm, and was about to expatiate upon its fine complexion and pearly teeth when the session adjourned."

If this is witty we fail to perceive it, a city editor who permits such offensive rot to be published against an inoffensive body like the St. Louis Medical Society, ought to get his walking papers forthwith.

The fact is, that every member, whose name appeared in that report does so in a ridiculous role. His standing in the community and with his patients is apt to suffer. A business man may not be injured by ridicule heaped on him in the daily print, but a physician certainly is.

Under such conditions no member is safe from willful or unintentional calumny in the form of ridicule, which any half-witted novice in the reportorial art may conceive to be a choice sample of literary skill.

* * *

Somewhat of a revival, amounting almost to a boom has of late characterized the meetings of the Medical Society. Perhaps the personal element which was introduced into its proceedings had something to do with this spurt of activity. But we dare predict that a number of the working members will in a very short time shine by their absence, if they have to run the risk of seeing their names held up to derision. The Society, then, would lapse into one of its periodical torpors, from which recovery is always slow and tedious.

* * *

As the present example shows, there is a grave danger threatening the Society. Its prime object is the promotion of the medical sciences by means of exchanging personal experiences and views. It is not a public body depending on the support of the public. It is of a private character

The admission of reporters to its meetings is an act of courtesy on its part. The hall in which it meets is its home. It pays for it. With great liberality the doors of this home have been thrown open to those who take an interest in medical matters. Such persons are the guests of the Society. Reporters are guests. This being the case, their line of conduct is plain. It is dictated by that code which has, from time immemorial existed among the civilized and a large part of the savages.

The fundamental feature of this unwritten, but universally recognized code is: Mutual good will between host and guest.

If a guest, from any motive whatsoever, sees fit, to speak ill of, or ridicule his host, he renders himself guilty of a breach of the most elementary form of eti-

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quette. He shows unmistakable evidence of low-breeding.

A most flagrant breach of this sort is the publication of the report quoted above.

* * *

The St. Louis Medical Society is based on broad democratic principles. The tyro and newcomer is on an equal footing with the old and experienced member. It must be contrary to all precedent, and would not be tolerated for an instant, if a member, no matter how high his standing in the Society, would assume the right of censorship over those that read papers or engage in the discussion.

Such censorship has been repeatedly usurped by reporters. To pass judgment on the merits or demerits of papers and remarks made, to pronounce them good, bad or indifferent, may be proper and justifiable from the standpoint of a newspaper man, but it is not conducive to the true interests of this Society. The abuses which may, and certainly will, result from the toleration of the prevailing state of affairs, are too obvious to require comment. With the present system in opera tion the reporter wields an immense power over the members of the Society. He can make and unmake reputations: Personal likes and dislikes are apt to dictate praise or blame.

Such power for harm ought not to be accorded any man. The crude instinct of selfpreservation demands decisive measures against the abuse.

Every member who has attended the meetings knows what travesties have from time to time appeared in the daily print. Flippant comments and imbecile jests at the expense of medical men when in counsel may be interesting and amusing to a certain class of newspaper readers, but there is no cogent reason, why such sport should be obtained at the expense of the St. Louis Medical Society, or why this particular body of medical men should be singled out to supply a public want for amusement, if such a want does exist.

As remarked above, we are not from principle against the admission of reporters to the floor of the Society. We do not believe in keeping the results of doctors' work from public knowledge, like a secret art. A diffusion of such knowledge is as much a requisite of a liberal education as that of other sciences, astronomy, physics etc. But if the impression prevails on the part of certain newspaper men that a report of the proceedings of a medical society is never complete without a sprinkling of would-be humorous and downright scurrilous reflection on its members, the question arises, whether or no steps ought to be taken in the direction of protecting the interests of the Society and its members by refusing to admit reporters to its hall.

There is a resolution, introduced by one of the Society's most honored members, by the late John T. Hodgen, still in existence, bearing on this very point. It has never been revoked, but it has been a dead letter for many years. This resolution forbids the admission of reporters.

In view of all the facts stated above, it is not advisable to enforce the enactment of that resolution or resort to some other measure, calculated to prevent the recurrence of such annoyances? We think that under prevailing conditions some action ought to be taken by the Society in self-defence and self preservation.

The St. Louis Medical Society and the Ethical Censors at Springfield, Mo.

Some months ago there appeared a startling telegraphic dispatch in the daily papers of this city to the effect that the Medical Society, of Springfield, had resolved to call down "the St. Louis Medical Society," for allowing its members to advertise themselves in the daily press. As usual, on such occasions, the latter, with delight and avidity, commented, expatiated, conjectured and gloated over the vast and incalculable possibilities which such far-reaching resolutions might have on the welfore and standing of the St. Louis Medical Society. By the way: What is the wording of those resolutions? Where they ever received by the Secretary of the Society? were they ever read and submitted to it? or is the whole affair a hoax? There is an air of mystery about this matter. "We pause for a reply!"

A Just and Wise Vote.

By deciding to allow all reputable medical journals to publish the St. Louis Medical Society's proceedings, directing the Society's editor to furnish them copies, in case they apply for them, the Society has done a just and wise act which will not fail to redound to its credit and welfare. No journal ought to have "the cinch" on the Society. So far as the scientific reputation of the Society is concerned, it has been practically dead for several years. Partly—by no means wholly—this ignominious oblivion has been due to the fact, that the publication of the Transactions was restricted to one paper. Under the new order of things, all medical journals of the city, whose editors are all members of the Society, are welcome. Let the best journal win.

Are Now Weeklies.—The *Kansas Medical Journal* and the *Philadelphia Polyclinic* are now issued weekly, instead of monthly as heretofore.

A Four Years' Course at Jefferson Medical College.—At a meeting of the Faculty of Jefferson Medical College held on Jan, 8, 1894 it was unanimously resolved to institute a compulsory four years' course with the session of 1895-96. This step was taken in order that the large clinical service of the Jefferson College Hospital (350 cases a day) might be utilized to the fullest extent in carrying out the desire of the Faculty to provide advanced medical education of practical character.

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ABSTRACTS

MEDICINE.

Treatment of Chronic Gastric Ulcer.—Dr. Stepp, Nurnberg, gives the following treatment for chronic gastric ulcer (*Lancet-Clinic*):

The treatment of chronic gastric ulcer has experienced very little change during the past twenty years. It is the same as was practiced and theoretically justified by V. Ziemssen twenty years ago. As is well known, it was based upon the supposition that an abnormallly high degree of acidity of the gastric juice favored the development and growth of the ulcer. Hence, the administration of alkalies in the form of natural Karlsbader Waters, or an artificial mixture of sodii bicarb., sodii sulphat., and sodii chlorid. seemed to fulfill indications since thereby the alkalinity of the blood was improved and the formation of acids about the gastric ulcers was paralyzed. A diet of milk and soup, strictly adhered to, was a necessary adjunct to this treatment.

Although this method apparently answers every purpose, we are aware of the difficulties encountered when we attempt to introduce it into private practice. It can rarely be carried out, since very few will submit to the prolonged observation and treatment, and hence improvement, but rarely a cure, will follow.

Great stress has been laid by all authors and at all times upon the necessity of rest to the ailing part, the stomach, in order that a speedy and favorable result may be obtained. Some authors insist upon continuous rest in bed and some relinquish feeding per os, introducing, at least during the early period of treatment, all food per rectum.

Such methods cannot be carried out in private practice. If we succeed in excluding the wound of the stomach, the ulcer, from participating in the action of the stomach, from the act of digestion, or in placing the secretions of the stomach under such conditions as to confine them to certain limits and decrease the formation of acids, to check abnormal fermentation, and, at the same time, to stimulate the mucous membrane and atonic ulcerating surface, we would accomplish that which would best promote healing.

Lately Fleiner has attempted to treat gastric ulcer in such manner, and, in order to meet the demands above mentioned, he seeks to exclude the ulcer from taking part in the digestive act by introducing into the stomach large doses of bismuth. He introduces ten grammes of bismuth, suspended in water, through a stomach-tube, and after the lapse of ten minutes allows the water to escape through the tube, which has remained *in situ*. Clear water escaped, since the bismuth had been precipitated during the interval. During the process he endeavored to place the patient in such position that the drug would reach the supposed locality of the ulcer and would cover the wound surface. Thereby the ulcer would be protected from digestion and the existing evil relieved at one blow. The process would necessarily be repeated every three or four days, or whenever symptoms indicated a return of the trouble. Instead of introduction with the tube, the bismuth might be administered suspended in one-fourth litre of water. In this manner three hundred to four hundred grammes of bismuth were used without producing any manifestation of toxic effects. Attractive as the results of this method are pictured in Fleiner's report, we are obliged to grant that the plan can be carried out strictly only in hospital practice, and is not available in private practice.

During the past four years I have adopted another method. By means of an antiseptic fluid, checking processes of fermentation and decomposition in the stomach, I attempt to place the ulcer under such conditions, that a deleterious effect upon the ulcerating surface is prevented and a harmless stimulating action upon the torpid wound surface is produced. For this purpose I employ chloroform-water in conjunction with subnitrate of bismuth. The latter addition is not absolutely necessary, but, because of the appearance of the remedy, and the possible beneficial effect of a combination, I have adhered to it. I have employed the following formula:

℞ Chloroform, - - - gms. 1
Bismuth subnit., - - - gms. 3
Aqua dest., - - - gms. 150
M. S.—One to two tablespoonfuls every hour.

One or two bottles of the mixture are consumed in the course of a day.

The disinfecting, astringent, styptic and mild stimulating properties of chloroform-water render it indispensable in the treatment of the round ulcer, since we possess no other remedy in which such a wealth of prominently favorable properties are combined.

Although I had called attention to these facts several years ago, no author has made mention of them except Ewald, who regards it as an anodyne, to which he ascribes also the power of exerting an excellent effect upon the entire diseased process. I am compelled, however, to state that chloroform-water, when given internally, never acts as an anodyne. Neither in children nor in the adult was a narcotic effect ever observed, nor has it any local analgesic power. On the other hand, the pulse and general condition were improved, so that the chloroform might be regarded as a stimulant, as an analeptic. Four years' experience with the use of chloroform-water in the treatment of diarrheas substantiated these statements.

The author reports seven cases, in which no doubt could be entertained as to the diagnosis, and in the treatment of which the effectual success of chloroform treatment is demonstrated. In all cases the treatment was instituted as soon as the diagnosis was made. It

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is of eminent value that this is possible even immediately after a hemorrhage, since the use of Karlsbader salts or Fleiner's treatment are contra-indicated under such conditions, for fear of creating distention or active movement of the gastric walls. Again, the anemia, which so frequently exists, does certainly not indicate the use of cathartics, which, in the form of alkaline fluids, are apt to induce emesis with its consequences. The state of affairs is, however, altered by the chloroform-water. The refreshing taste of this remedy effectually subdues the nausea and thirst following hemorrhage. Any tendency to renewed hemorrhage is counteracted by the styptic properties of the chloroform.

In acute as well as in chronic ulcers one very prominent effect is worthy of mention. In all such cases the appearance of the patients is not only anemic, depending upon poor nutrition, but they frequently present a pale yellowish appearance, apparently septic. The latter is the result of an absorption of septic matter developed on the surface of the ulcer and encouraged by the disturbed gastric digestion. Within a few days after the inception of the chloroform treatment the septic appearance vanishes, the feeling of relaxation and exhaustion abates, and a healthier color appears upon the face. The antiseptic action of chloroform checks the forma tion of septic matter during digestion, the stimulating effect upon the mucous membrane and ulcerating surface brings about fresh granulation, which, as we know, impedes the absorption of septic matter, and thus the healing process is opened up within a few days.

That such antiseptic action does take place is evident when we consider the fact that with a few drops of chloroform any fermenting liquid is rendered inactive, and that the gastric mucous membrane is covered with the chloroform-water every hour. Hence the mucous membrane and ulcer, placed under such conditions, that favorably influence the secretions, check the disintegration of the stomach contents, and, while simultaneously stimulating the ulcerating surface, keep the latter free from harm.

During the first two weeks milk diet is adhered to. At the end of the second week bouillon with egg is added, and in the fourth week easily digested meats are allowed.

Prognosis of Valvular Heart Diseases with Regard to Marriage.—Dr. Ch. Vinay (*La Semaine Medicale; Lancet-Clinic*) has studied this subject, and thinks that the absolute prohibition of marriage in women suffering from valvular cardiac affections is too absolute. During the years 1891 and 1892 he has examined all the women that entered the Maternity at that city. Out of seventeen hundered pregnant women he found twenty nine (1.70 per cent) with heart affections. The most frequent lesion was mitral stenosis, eleven cases, it being accompanied, in seven cases, by insufficiency of the tricuspid, and once with aortic insufficiency. In twenty-five cases pregnancy went on undisturbed; in three there were accidental complications, influenza, and a melancholic psychosis in one; in four there was edema of the lower extremities, but in these cases the womem suffered from varicose veins, and, only in four, was the heart disease found to exercise a deleterious influence upon pregnancy. In one there was hemoptysis and attacks of dyspnea, another presented dyspnea with serous effusions, and, in two twin pregnancies, there was dyspnea and edema of the lower extremities. In twenty-four cases it went on to full term, one of which was twins. Only in four did labor set in prematurely, and in one of the twin pregnancies. Only two patients suffered from albuminuria. He divided such patient into three classes:

The first comprises those where the heart affection was latent up to impregnation, and continues thus through pregnancy, labor and child-bed. These cases are more numerous than is generally accepted.

The second class includes those where the heart's function is but slightly disturbed by pregnancy, and was first noticed during gestation. Here the prognosis is less favorable than in the first class, but the condition is still bening. It may be improved by rest and treatment and disappear after labor.

The third group contains those were the combination of the heart affection and pregnancy constitutes a condition which is liable to be fatal at the more or less advanced stage of conception. The absence or presence of albuminuria is an important element in prognosis. The presence of albumen in the urine during a heart disease indicates regularly an advanced insuffciency of the myocardium, with disturbances of compensation. It is always a bad sign, and especially in a pregnant women.

His practical conclusions are that marriages may be permitted, but not without restriction, in well compensated heart affections—mitral stenosis or aortic insufficiency, where neither albuminuria nor signs of asystolia have been discovered. But if she has had such symptoms, has presented signs of cardiac insufficiency, as pulmonary congestion, hemoptysis, or above all albuminuria, it may be prognosticated, with certainty, that marriage and maternity will gravely compromise both her life and that of her child.

SURGERY.

Faradism as an Analgesic in the Loosening of Joint-Adhesions.—Douglas Graham, M.D. Boston, Mass., (*London Practitioner*) says: in 1884 I began using a strong faradic current for the immediate relief of pain caused by forcible stretching and loosening of adhesions about joints, and I have continued to do so ever since with, in almost every instance, more speedy relief than could be obtained in any other way. Partial relief is in most cases immediate, and complete relief soon follows, so that the stretching and rupture of adhesions can be repeated several times at one sitting,

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a procedure to which the patients willingly submit, knowing that the pain can be so quickly stopped. Massage will accomplish the same object, but in general not so rapidly.

My plan in these cases is first to ascertain how much active motion the joint is capable of, then to find the limits of passive motion, after which I proceed with massage, alternating with gradually increasing passive motion until the limits of the latter without breaking adhesions are reached. If these can be started without putting the patients under ether. I do but a little at a time; then having a faradic apparatus in action at hand I apply a comfortably strong current by means of two tolerably large electrodes, covered with sponge or absorbent cotton, to each side of the painful joint or to its anterior and posterior aspect, or wherever the current is most accessible to the painful place; and usually in from thirty to sixty seconds there is complete relief. Then I proceed with massage, passive and active motion, for five or ten minutes, after which I increase the passive motion to the extent of tearing the adhesions a little more, and I follow this by the same means of relief. In this way patients have immediate use of all the motion thus gained, and for adhesions that are neither too deep nor too strong it is preferable to breaking them down under ether. Under anesthesia so much is likely to be done at one time that the joint is lame and sore and useless for weeks or months after; or, what is more, the adhesion may reform stronger than before, unless massage and passive motion be early applied to prevent this. Furthermore, this plan of massage, and passive motion gradually increasing to the extent of loosening adhesions, will quickly show whether these are so strong, or the involuntary tension of the muscles so great, that they cannot be entirely overcome without putting the patient under anesthesia. In doing this time is not lost, for massage, with passive and active or resistive movements, are the best means preparatory to breaking down adhesions under ether; they facilitate the motion of the joint and the relaxation of the muscles as far as the adhesions will allow.

I had supposed that this method of using the faradic current for the relief of pain caused by the breaking of adhesions without ether was in common use, but recent enquiry and research have failed to reveal to me that the analgesic effect of the faradic current has been used by any one else for this purpose.

As no trustworthy instrument for measuring the faradic current has yet been discovered, I am unable to give the strength of current which has proved most beneficial in different cases. The susceptibility of the patient must be taken into consideration, and also the fact that a strong current is scarcely perceptible upon well joints. After massage the tissues are much more susceptible to electricity than before. In general the current should be strong enough to produce contraction of the patient's healthy muscles, and this might serve as a guide for its application on or near joints after the breaking down of adhesions. When adhesions are slight and yield easily to moderate force, massage afterwards will prove sufficiently palliative; but where they are moderately strong and stubborn the faradic current would seem to afford the quickest means of relief after stretching or tearing them; while for firm deep adhesions and obstinate muscular contraction there is nothing but the forcible breaking of them under ether. In these last cases I have never tried the faradic current, but gentle massage has afforded immense relief as soon as ten hours afterwards.

I have at present under treatment a patient with periarthritis of the shoulder joint to whom the faradic current is very disagreeable, but after an upward pull so vigorous as to stretch or tear the adhesions, pain has been speedily relieved by the immediate application of the faradic current; and as soon as the pain has gone the disagreeable sensation of the current has been felt. He has had gradually increasing periarthritis of the shoulder for over a year, and under the plan of treatment here outlined he is now, at the end of three weeks almost well, and the faradic current is no longer necessary for the relief of the slight pain caused by the forcible pulling of the arm upwards.

An excellent procedure in these cases, and one which I had never heard of until I employed it myself, is to tire out the stronger opposing muscles by means of resistive motion, as, for instance, in the case of the shoulder the muscles that pull the humerus down, by making resistance at the elbow while the patient pulls this down. After a dozen or twenty-four pulls in this manner, the deltoid, which has long been weak from inactivity, can often raise the humerus much higher, and thus show much more clearly to what extent adhesions, if they exist, limit motion. This is taking advantage of a physiological principle, that by increasing the contraction of a muscle we at the same time increase its relaxation. A contracted muscle with a weight attached to it extends more than it does when relaxed with the same weight attached to it. By these methods I can now work out cases to a satisfactory termination that formerly would have defeated me.

In illustration of the immediate pain-relieving quality of the faradic current after stretching, loosening, or tearing adhesions, I will narrate in detail but one case:

Miss B. W., 21 years of age, had always been well and active until a year previous to my being called to her. She had then had an attack of acute rheumatism, which first appeared in her wrists, and lasted for seven days. After this it migrated to her left knee with greatly increased violence. At the expiration of eleven weeks, the knee being in extreme flexion and the acute symptoms having subsided, extension under ether was attempted, with the result of bringing the leg to an angle of 135° with the axis of the thigh posteriorly, or of 46° with the axis of the thigh anteriorly, where it remained stiff and immovable. The immobilising material, splint or plaster, put on after extension had pressed too hard against the posterior aspect of the head of the fibula, notwithstanding the patient's protestations

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and when at the end of three weeks this was removed it was found saturated with a discharge that came from a sore immediately behind the head of the fibula just over the peroneal nerve. This discharge continued for many weeks more. Doubtful whether she had received proper treatment or not, and almost despairing of improvement, at the end of a year she consulted Dr. George W. Gay, who at once referred the case to me. I found the knee-joint almost completely ankylosed. Motion was scarcely perceptible and gave great pain. The acute symptoms had subsided, and there was but little swelling in and around the joint, and what there was seemed to be due to thickening of the capsule. The hamstring muscles were moderately tense, not contractured but retracted. The case, evidently, was one of fibrous ankylosis with some destructive anthritis of the joint surfaces. Behind the head of the fibula there was a red cicatrix closely adherent to the bone and implicating the peroneal nerve, as a result of which the foot drooped downwards and inwards, and there was no power of voluntary flexion (loss of contraction of the extensor muscles); but when it was put in the position of dorsal flexion the muscles on the back of the leg could extend it vigorously against resistance. The lower third of the outer aspect of the leg, the ankle, and the back of the foot were devoid of sensation, and could be pinched and pricked without pain. There was pasalysis of both sensation and motion, and the foot and ankle were edematous. The musculo-cutaneous branch of the peroneal nerve was most affected.

It seemed to me exceedingly doubtful whether I could benefit this case. After massage at the second visit the first attempt to pull the knee straight hurt the patient for twenty for hours, and apparently did no good. I did not have my faradic apparatus at hand. The pain of forcible manual extension, however, gradually decreased, so that on and after the eighth day from my first visit I was giving the leg two vigorous pulls at each sitting, at which adhesions could be heard and felt breaking, and relief was quickly obtained by the faradic current. At each visit I massaged the whole limb, gave passive motion to flexion of the foot, resistive motion to extension, and two or three forcible pulls of the leg to the extent of tearing adhesions, the pain of which was relieved with wonderful uniformity in 30 seconds, and completely removed in 60 seconds, by the faradic current applied to each side of the joint anteriorly. Occasionally for the sake of comparison I would use massage for the relief of pain following the pull, and it almost invariably took about twice as long as the faradic current, but even this was brief. The electricity was also used over the paralyzed regions. Between my daily visits extension was maintained, at first by bandaging the limb to a curved ham splint, later to a straight ham splint; and after a time extension and support were kept up at the same time by a simple apparatus with one cap that buckled over the knee, and a counter-support or band behind at each end attached to light steel side pieces. The counter supports behind turned on pivots, so that they always adjusted themselves to the back of the thigh, and the straps of the knee cap were freely movable up and down. When this apparatus was on we attached to the outside of it at the knee a piece of strong elastic webbing, the other end of which was fastened to a band around the ball of the foot. By pulling this tense and buckling it at the knee the foot was thus brought, into dorsal flexion, the voluntary power to do which was lost. Thus the patient had under her own control the means of resisting extension of the foot, which as soon as the extensor was over, pulled the foot back to flexion, giving passive motion to the powerless muscles in the front of the leg. It proved a perfect device for active extension alternating with passive flexion of the foot, and the patient did not fail to utilize it many times a day.

Under this plan of treatment she steadily improved, so that at the end of three weeks an outline of the leg compared with one taken at the beginning showed a gain of extension of $2\frac{1}{2}$ inches at the ankle, nearly one-half the distance required to bring the leg straight, and at the end of eight weeks the gain was $4\frac{3}{8}$ inches, straight enough for walking, but the joint was still tender on pressure, and the patient had forgotton how to walk. Adhesions were no longer heard or felt breaking by vigorous extension, but the pain of this was still relieved by the faradic current. Anything like free passive motion was entirely out of the question, and it very soon became evident that our best endeavor must be to get the patient well with a tolerably stiff straight knee in place of a stiff bent one. Even the slightest attempt at flexing the knee caused the most excruciating pain, and gave warning that it must not be persisted in One evening when sitting in a rocking-chair without her support a playful relative pulled the chair backwards, which bent the knee and hurt it much. She had the battery brought to her, started the current, and applied it herself and was quickly relieved. An acute synovitis followed for several days to tell the tale.

At the end of three months the lost motion and sensation in leg and foot showed signs of returning, and it was at this time also that she took her first walk alone, steadying herself by the wall. A week later there was great improvement in the impaired sensation and motion which had been so slow in beginning to return. At the expiration of four months she walked three-quarters of a mile away from home and the same distance back again, going up and down two flights of stairs at the same trip, and carrying her crutches with her for security but not for support. A week later she could flex the foot to a right angle, and two weeks after this she could flex it against resistance, and sensation was correspondingly good. Treatment was then discontinued and the patient went about freely with a stiff knee, wearing for security rather than for support one of the ordinary knee-supporting apparatus attached to the sole of the boot and extending above the knee with joints at ankle and knee. Vigorous extension then no longer hurt the knee which seemed an indication that all had

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been accomplished in this direction that could be; but any attempt at flexion gave ominous warning that it must not be persisted in.

Thus in six months this patient had a useful limb which there is every reason to suppose she would not have had but for the treatment employed. Two years and a half after this I saw her again. She could walk long distances without fatigue. The cicatrix behind the head of the fibula was freely movable. There was very slight motion in the knee, and forced flexion made it go no further than voluntary. From this time onward she discontinued all support on the limb. A year later I saw her again and she had excellent use of the limb for all requirements except for going up and down stairs in the usual way. Forcible flexion and extension with all my might did not hurt the knee in the least and moved the joint but very little. The patella had but little motion, and that laterally. She could dance eighteen dances in an evening, besides being on her feet most of the day.

Teeth have been extracted, felons and buboes opened with little or no discomfort while a strong faradic current has been passing through the affected parts; and after the use of caustics and irritants to the uterus and other injuries the annoying pain caused thereby has been much relieved by the application of the faradic current. (Beard and Rockwell.)

To Drop the Title of Doctor.—We can hardly understand in this country the extreme eagerness of English practitioners of medicine to possess the title of doctor. There has been a great deal of active discussion in English journals lately over who is entitle to the honor. Speaking of this the *American News* says:

"To us on this side of the sea, who hear the title of 'doctor' given to anybody in any way associated with medicine or medicines, from the most eminent and venerable physician to the drug clerk who mixed his first prescription yesterday, the 'game would not seem worth the candle.'" One of the above writers quotes, as one of the definitions of the term "doctor," "a fish, with sharp edged spine near the tail." Webster, after giving the classic use of the term, calls a doctor: "One duly licensed to practice medicine; a physician; one whose occupation is to treat disease." He also calls a doctor a "mechanical contrivance to serve some purpose in an exigency," for instance, "an auxiliary steam engine, called also a donkey engine." And we are all familiar with the colloquial use of the word in the verb transitive as applied to the adulteration of liquors and foods, and the surreptitious tinkering of election returns. These consideration and many more would seem to make it advisable for the physician and surgeon to drop the term so far as practicable, contenting himself with the title of plain Mr. like other folks. Of course the public will continue to call him doctor (sometimes "Doc."), but there is no good reason why he should continue to apply to himself a term so degraded and deflected from its original high uses as to have for him no longer any distinctive merit.—*Med. Rec.*

MEDICAL SOCIETIES

St. Louis Medical Society.

Stated Meeting, Saturday Evening, Feb. 3, 1894.

The President, W. B. Outten, M.D., in the chair.

Edematous Myoma of the Uterus.—Hysterectomy.

Dr. McIntyre presented a specimen removed on the morning of June 30, and this case illustrates the necessity of early operation. I removed an edematous tumor three years ago the seventh of last December which I believe is the largest that has ever been removed, and I present this specimen in contradistinction to that one. This was removed from a lady 39 years of age, and it shows the correctness of Lawson Tait's point, that soft edematous myomas do grow after the menopause. It furthermore illustrates the fact that it is useless to remove the ovaries and tubes for the cure of these growths except when they are of the hard multinodular variety. In this particular instance the tumor grew after the menopause; it was associated with the ovaries which were both removed. They were filled with pus. It further illustrates how these specimens drain away and shrink. Unfortunately I slit the tumor open in my curiosity to see what was on the inside. This has been reduced fully fifty per cent, and it is now impossible to bring the edges together.

The managment of the patient illustrates the point that while total extirpation is the ideal operation in these cases (and I have done it to my sorrow), the treatment of the pedicle extraperitoneally, by means of the Kaeberle Serre noeud with Delta wire, using Dorands pins to support it, gives the best practical results. A pedicle as large as the arm or leg can be brought down to about that size. I also used a glass drainage tube. The temperature of the patient never went higher than 100.4°.

Cystic Ovaries.

Dr. Y. H. Bond.—I have here a pair of cystic ovaries removed last Thursday from a lady 30 years of age. She was suffering from neurasthenia, or at least her nervous system was so much affected that her health was greatly impaired. At the time of the examination Dr. Senn, of Chicago, happened to be present and was requested to examine the case also, and he thought that the tubes were not involved in the affection, but it was confined to the ovaries; the left ovary was quite large and was adherent. The right ovary was cystic, but not adherent. The operation showed conclusively the correctness of this diagnosis. Before proceeding with the operation of laparotomy the uterus was curetted, for it was subinvoluted, and the evidences of puerperal endometritis were present. In this respect I do not follow the course outlined by Howard Kelly, who takes the

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position that where many operations are performed at the same sitting the laparotomy should precede the curettement. I think this is radically wrong, and dangerous, for the reason that when we have done the laparotomy and tied off the broad ligament, in attempting to curette we make traction on the broad ligament and are liable to tear open the vessels that have been ligated. This patient had no elevation of temperature; she had no nausea. There were several ounces of fluid in one of the cysts, but it ruptured after being taken from the abdominal cavity and the fluid escaped.

Multiple Fibroid of the Uterus.

Dr. Prewitt presented a multiple uterus fibroid, and said the case was a forcible illustration of the necessity of early operation. The woman was 42 years of age, and only noticed the tumor twelve months ago; it was growing rapidly. Upon examination I found it was a multiple fibroid, and that the cervix was actually obliterated. The whole left broad ligament was distended and thrown up towards the right, behind the pubic bone, and while there was a certain degree of mobility of the tumor, I was satisfied that it was a serious case to deal with, and that there was nothing to do but to operate. The tumor has shrunk considerably since removal. I removed the whole tumor, as there was no alternative. There was no pedicle; the cervix had been entirely obliterated. The mass filled up the pelvic cavity, and I found it impossible to draw it up. Only upon one side could I reach the broad ligament, and then only with the utmost difficulty. I also had to deal with large vessels, which bled on the slightest disturbance. I eventually succeeded in getting around underneath and cut it off, and tied off the right side. There was no possibility of making a pedicle. I took out the uterus and all, and put the drainage tube into the vagina The patient, I am sorry to say, succumbed to the shock, but I am satisfied that the result would have been different if an earlier operation had been done. The ureter on the left side was stretched across the mass like a telegraph wire.

Dr. Hughes.—Do you use ether habitually in your operations?

Dr. Prewitt.—No, sir; I generally use chloroform, and did so in this case.

Dr. Hughes.—I asked the question because I saw Tait's recent article on this subject, in which he says ether is responsible for many of the accidents in these operations.

Dr. Prewitt.—Ether is preferable in some instances, but is very objectionable if there be brain or lung trouble.

Cystic Ovaries.

Dr. Morris presented a pair of cystic ovaries, and said the case was similar to the one he reported two weeks ago. The other case was practically well. This was the third case presenting the same symptoms, and resulting the same, so far. The ovaries were cystic; the uterus adherent; both tubes and overies were adherent, the right was much larger than the left.

Dr. Bond.—I wish to speak briefly in regard to the position taken by Dr. McIntyre, in regard to the removal of fibromyomatous tumors.

Dr. McIntyre.—I mean the soft edematous myomas.

Dr. Bond.—I am inclined to think that the explanation of the influence exerted by the removal of the ovaries lies in the fact that a certain amount of the circulation that goes to the uterus through the broad ligament is cut off. When we remove the overies we also ligate certain vessels—ovarian vessels, for instance—that go to supply the uterus; and when we lessen the amount of blood that goes to the uterus we necessarily interfere with the nutrition and growth of those structures that are of a low degree of development. I believe all the virtue that is attached to the removal of the ovaries is to be explained on this theory.

In regard to Dr. Prewitt's tumor I will say that it has been my practice in dealing with such tumors to put an elastic ligature around the base of the tumors, thus interrupting its circulation, and then with a knife split the tumor open and enucleate it. I believe it is the proper way to deal with these growths.

New York Academy of Medicine.

We are indebted for this report of the proceedings of the Section of General Medicine, meeting of December 19, 1893, to the *Medical Record:*

Specific and Relative Value of the Important Factors of Longevity.

In arranging the discussion on this subject, the Chairman had requested examiners for several of the life insurance companies as well as other to take part. He first called upon Dr. E. W. Lambert, who said he responded to the invitation with some diffidence because he found the subject so complex, the factors so many and apparently contradictory. Of course, in his long experiences as examiner for life insurance, the question of longevity had naturally presented itself. In spite of the long time this question had been before him, he could not say that it had particularly cleared up; it was still debatable as to what were absolutly important and also relatively important factors of longevity in individual cases. In the first place, however, we must exclude two words, viz., always and never.

Long-Lived Ancestry.

The first important factor, it seemed to him, was that the man should have a good inheritance. No one could deny that long life on the part of ancestry on both side of the house was an important factor in considering the longevity of the individual. Indeed, he knows of no other single factor of as great importance, yet one might feel staggered at time to meet with a case in which a mixture of the blood of a long-lived couple

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resulted in a short lived progeny. This was the exception and due to peculiar combination.

Environment.

The next question of importance was that of environments,or the conditions in which a man was born. A comfortable, well protected, well-organized household, and sanitary surroundings were pretty sure to carry the child through early life with all its attending accidents.

Temperament.

The next important factor was temperament. It seemed to Dr. Lambert that a placid, calm, philosoph ical way of looking at things was much more conducive to longevity than the irritable, fretting, fussy, fault finding way observed in some people. This was well illustrated in the case of animals. In a span of horses going up Fifth Avenue it would be observed often that one horse would go quicker along and do all the pulling while his mate danced, pranced, and cavorted around, wasting his energy and shortening his life with little good.

Manner of Living.

The next matter of importance, he thought, was the way of living. The man who was careful, considerate, and moderate in the exercise of all his faculties,whether animal or intellectual, was one who would last longer than the man who over-indulged in any one of the numerous things which go to make up life. The men who broke down and died prematurely were usually those who had not lived temperately. It was often said that men worked themselves to death, yet the more he observed people, the more did he become convinced of the correctness of the Western editor's assertion that men do not die of overwork, but rather of wh it they take between work. He thought it would be found that what killed men was not work, but what they did outside of their work; yet he did not believe in total abstinence in any sense. There was no law, with regard to eating and drinking and manner of living, which could be laid down as applicable to all individuals. Each person must find out the law which applied to himself and obey it. Each person could usually discover what agreed and what disagreed with him, and if longevity was sought after he would have to avoid the things which evidently disagreed with him and seek the things which did agree with him.

Exceptions.

Dr. Lambert added that he was aware that to what he had said one could bring exceptions by the thousand. Take any one of the factors which had been mentioned, and one could mention men who had lived long without any; for instance,with regard to alcohol,men could be found who had done nothing much but drink all their lives, and yet have lived to full age; but when one found a man who had drank hard all his life he could be pretty sure he had done nothing else.

All were subjected to circumstances which they could not altogether control, and yet at times found themselves compelled to do things which they were advised not to do; and now and then it happened that even then, in the case of the person who seemed to possess all the factors of longevity, death ensued early in life.

Professional Athletes Short-Lived.

Dr Brandreth Symonds said that when he was asked to take part in the discussion he expressed the opinion that the subject was a rather a large one, whereupon the Chairman had kindly extended him the privilege of nibbling at it here and there. With regard to the effects of athletics upon the expectation of long life, it was notorious that professional athletes were short-lived. In seeking a reason for this he had had opportunity to examine four, and only one of the four showed no abnormality. The others had cardiac hypertorphy, one a little emphysema, one a trace of albumin and sugar in the urine. It was different with amateurs, for they left the field before permanent lesions developed. He had examined eleven good amateurs with reference to the question whether they were desirable subjects to insure, and he had found all but one practicaly sound. The one who constituted the exception had narrow chest, thirty inches, and secondary enlargment of the heart as a consequence.

The Influence of Build.

Dr. Oscar H. Rogers thought Dr. Lambert was quite correct in regarding the family history as the most important factor in longevity. In the exceptional cases where longevity in the patient had not been transmitted to the offspring it might, perhaps, be accounted for by moderate extremes in some respects existing in both parents, combining and causing marked extremes in the offspring. The form of body was, he thought, next in importance to family history. A person might not only be too heavy, but his fat might also be accumlated in the abdomen instead of being evenly distributed.

About Consumption.

Dr. Rogers had once considered the question, what persons might be expected to die of consumption, and on looking through a life insurance list had found that about one fifth of those dying of consumption gave a family history of that disease. Stated in a different form, about four fifths of the people who died of consumption in adult life gave no history of this disease in their immediate family. Approximately, seven tenths of those who had died of consumption were under average weight and build. Very few were of the average weights, and fewer still above it. Gout was of sufficient frequency in England to be considered in the family history by insurance companies, but in this country neither it nor rheumatism were considered of so great importance. After the question of disease in the family and the points previously mentioned, he next laid must stress upon habit. Some persons would train well on five-pound dumb-bells, others better on ten-pound ones, and it was the same with alcohol: one man

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would be a raving maniac with a single glass of alcoholic drink a day, of which another man might take half a dozen glasses and live to eighty or ninety years. He would, therefore, like to see a little wider latitude given the individual—not every individual—in the use of alcohol.

Dr Rogers had looked over a list of five thousand deaths, in persons whose lives had been insured, with regard to the cause, and had found that about twenty-five per cent had died of diseases of the lungs, and about ten per cent of these had died of tuberculosis, probably ten per cent of pneumonia, the other five per cent of bronchitis and other affections of the lungs.

Dr Rogers also said, in passing, that post graduate instruction in New York and other centers had decidedly raised the standard of rural medical men who made preliminary examinations of those applying for life insurance.

The Mutual Influence of the Different Factors in Longevity.

The Chairman asked some questions regarding how far inherited constitution might be modified by environment, the mutual influence of the several factors relating to longevity, and the propriety of considering them in granting life insurance.

In reply Dr. Lambert said he had not gone into details, as it would have required all night. With regard to weight, there were two sources of danger, one in light weight, and a very different one in heavy weight. Light weights, as a rule, developed their diseases before forty, heavy weights after fifty. The rule applied in the selection of recruit for the army was the safest he knew with regard to relative weight and height. One was taking an extra risk in insuring a man who did not weigh two pounds to the inch in hight. For instance, if a man measured five feet ten and weighed less than one hundred and forty pounds, his life was an extra risk. Of course, there were marked exceptions to this rule. In the same line, if a man's chest did not measure half his height, the risk was great. If both the weight and chest measurement were below the proper proportion compared with the height, the sooner the case was barred out the better for the insurance company.

His idea with regard to fat men was, that the danger increased in proportion to the size of the belly. He did not regard a stout man as an extra risk if he came of a good family and his flesh was well distributed. But if a man's chest measured 36 and his belly 46 inches, he was more likely to die of fatty degeneration than if the chest measured 38 inches. Such persons usually died of diseases "below the belt." The farther a man was away from the ordinary standard in build, the more critically did he inquire into the family history, his personal habits, whether he took more nourishment than any decent man could burn up, and so on. The difficulty with high living was that a man put nourishment into his stomach faster than his excretory organs could eliminate it. He put into his furnace so much coal that clinkers were sure to form, and he would die of some one of the results of carrying in his blood a lot of stuff which ought to be excreted.

The Danger from Alcohol.

Dr. Lambert thought the danger from alcohol lay less in the alcohol itself than in the fact that the subject was apt to keep his stomach on the grind from morning till night, giving it no time, much less have the time, in which to rest.

Bodily and Head Measurement and Other Factors.

Dr. M. Morris continued the discussion with a paper. He has studied the subject of longevity more or less for a good many years, not alone in connection with life insurance, but also as a general practitioner should do. Inherited tendency to longevity was an important factor in treating disease. Persons inheriting short life did not present as good prognosis in disease as those inheriting long life. This was especially true in critical diseases. There was an indefinable something in the human organism, varying in degree and force, termed tenacity of life or natural resistance to disease, by which some persons passed most successfully through serious maladies and injuries, while others without so much natural resistance succumbed. This was every-day experience, especially in surgery. This statement did not, of course, imply that proper treatment has not much to do with the successful result.

In a large proportion of those endowed with tenacity of life the ancestry would also be found long lived. Like in other living organisms, some parts of man's system decayed and perished before others. The vital principle was seen to carry on its active process in one organ and another until each one in turn faded, and the being was unable longer to maintain life. It was not within human ken to describe this vital principle, but by observation it was known that certain conditions would cut it short, yet that it was impossible to prolong it by any means whatever beyond the natural inheritance. Some men were at best endowed with short life, while others, if they obeyed the law, could live a long life.

Is it Possible to Predict the Probable Duration of One's Life?

Having put this question, Dr. Morris said that inherited tendencies, habits of living, occupation, observance of sanitary laws, and residence, all had a direct bearing on the question of probable longevity. Acute diseases, bad habits, excessive indulgences, unfavorable residence, all had a life-shortening influence. In all forms of life we must find some substance in common in which life inhered and upon which life must depend. In plant life there were structures not found in animal life, and in animal life there were substances

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not found in plant life, but in all forms of life there was a secretory tissue. This was the only substance common to all living things. This also had its life-time and when it ceased to exist life became extinct. This secretory tissue was the only kind of substance which was transmitted from the ancestors, and therefore it contained in itself all the ancestral influences which were transmitted. But there were different kinds of secretory tissue and different proportions of each, so that the duration of life was a variable quantity. The differeht organs of the body were not a unit, but aggregations, and one might die and end the individul's life while others might have lived on to an advanced age. Yet a short-lived organ might not be essential to general life. A life was always a combination of inherited influences, some one of which might be of a kind to reduce the general inheritance below that of the ancestral stock. Current conditions seldom produced a better result than fairly belonged originally to the individual.

It was not unusual to remark that a person inherited red hair from the mother, or a dark complexion from the father, and so on. Why, then, not inherit the stomach from one parent, the liver from the other, and similarly with other organs? One brother resembled in outward appearance almost entirely the mother, a sister the father; if so without, why not within? A great-grandfather died of heart disease at seventy-six, a grandfather at seventy-one, a father at sixty-five. A son resembling this father might rightfully infer that he would die still younger of the same disease. But instead of calling it disease, call it the natural life shortened by a weakness in the paternal ancestry. Like caused like.

Can the Constitutional Inheritance or Life-Time of Organs Be Discovered by External Appearances?

To this question Dr. Morris answered certainly, in the majority of cases. In the first place, by studying the physiological relations of the organs of the body and their mutual influences; second, by observing the external manifestations; also by family history of longevity. A person whose ancestors were long-lived on both sides would, as a rule, be both healthy and long-lived, and able to endure much hardship and grave maladies. On the other hand, those who inherited short life could not by any prescribed sytem of living protract their short life inheritance. General average law did not form a basis for estimating individual longevity. Lucas had stated that the average life depended upon locality, hygiene, and civilization. But individual longevity was entirely exempt from these conditions. Everything tended to show that long life was the result of the initial principle of vitality which privileged individuals had received at their birth, and this was so deeply imprinted in their nature as to make itself apparent in every part of their organism. It was not the habit of the man who was excitable and always in a hurry, which made his life a greater risk than that of a calm, philosophical person; it was rather the inherited quality which led to the difference in behavior and, in the case of the philosophical person, gave long life.

External Indications.

There were certain external indications which would give a fair idea of long and short life. It was not in one trait, but in the entire make-up of the individual who stood before the examiner. There were the color, the motions, the measurements, including size of head, which was one of the most certain indications of long or short life, for in the brain lay the great centre of power. A person with a head whose diameter at the thin portion of the temporal bones measured five and a half to six inches was almost sure to give a longevity on the father's side of seventy to ninety years or over. If the head measured in front from the external auditory canal to the naso-frontal suture as much as four and three fourths or five inches, we might be almost sure of long life on the maternal side. A beard which was darker or redder than the hair, indicated inheritance from the paternal side; if it were lighter than the hair, the inheritance was probably from the maternal side. The length of the chest, its proportion to the circumference, to the height of the individual, and other measurements, were important.

Emphysema and Starvation.

The Chairman, Dr. Quimby, quite agreed with Dr. Morris as to the importance of inheritance, but he had been struck with the powerful influence which habit or conditions of life had in the production of certain diseases. He referred especially to emphysema, which he said he had encountered with startling frequency in the dispensaries, and had come to the conclusion that it was due to bad food or insufficient nourishment among poor people. He had found the emphysematous chest repeatedly in persons only twenty-five years of age, or even younger, who visited dispensaries. In striking contrast with this experience, he had not in ten years examined a musician who had emphysema.

A New Way to Execute Criminals.—A bill has been introduced in the Legislature of Ohio opposing hanging and providing that all murderers sentenced to death shall be put out of the way by means of anesthetics which are to be administered under the supervision of a board of physicians and scientists. The condemned man having been placed in a painless sleep, the scientists are to be permitted to take the top of his skull off and watch the actions of the brain and lay bare his heart and other organs and study life there.

The author of the bill is a physician and argues that its passage would give scientists an opportunity to study the currents of life as they have never been studied before, and would undoubtedly result in the most wonderful discoveries to the benefit of humanity.

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NOTES AND ITEMS

The Virginia Hospital, at Richmond, was formally opened January 11. This institution, the outgrowth of the public spirit of some of Richmond's most prominent citizens, was erected at a cost of $18,000, and is now completely equipped. Dr. Hunter McGuire is President, Major Lewis Ginter, Vice-President, and Dr. Hugh Taylor, Secretary and Treasurer.

Death in an Attempt to Win a Wager.—The London correspondent of the *American Practitioner and News* tells of a man who, in an English alehouse, made a bet that he could take a billiard-ball into his mouth and close his lips over it. He made the attempt and seemed to have accomplished the feat. He was seen to struggle, however, and died by suffocation while being taken to a hospital. At the inquest it was found that the billiard-hall had been crowded back so far as to obstruct the upper lumen of the laryn, while the epiglotis was not seen to be depressed. The organs of the body were healthy but congested.

Fracture or Dislocation?—A suit for malpractice against a well known physician of Brooklyn has recently been publicly noticed. The complainant, at one time a hospital nurse, suffered from a fall down a long and steep flight of stairs. An injury of the arm resulted, which the defendant diagnosticated to be a fracture. The treatment was by means of splints at first, and a plaster dressing soon afterward. The patient states that the suffering increased to such an extent that she deserted her physician and resorted to the City Hospital, where she had formerly been on duty as a nurse. At that hospital, it is further stated, the house surgeon declared that the injury was not a fracture but a dislocation. There is promise of an acrimonious discussion in court, as is too apt to be the case in questions of this nature, over the diognostic points and the severity of the damage. We may expect an ultimate vindication of the practitioner, but he will be ground between the upper and the nether millstones of misrepresentation and law costs.

An Army Medical Board will be in session at Washington City D. C., during April, 1894, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies.

Person desiring to present themselves for examination by the board will make application to the Secretary of War, before March 15, 1894, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between 22 and 28 years of age, and a graduate from a Regular Medical College, as evidence of which, his Diploma must be submitted to the Board.

Successful candidates at the coming examination will be given a a course of instruction at the next session of the Army Medical School, beginning in November, 1894.

Further information regarding the examinations may be obtained by addressing the Surgeon General, U.S. Army, Washington, D. C. GEO M. STERNBERG,
Surgeon General, U. S. Army.

Too Many Medical Societies.—We are suffering in this country from too many medical societies. The recent meeting of the Northwestern Ohio Medical Association in this city is a good illustration of the amusing phenomenon of the city specialists reading papers to the country practitioners without the presence of the country practitioners. While many of the district medical societies in Ohio are doing good work and are most creditably conducted, yet it must be conceded that these societies are conducted and supported to the detriment of the county and State societies. It is also a lamentable fact that some of these societies are directly and openly antagonistic to the local and county societies, and thus do great harm. Another phase of this tendency to create innumerable medical societies was the recent second annual meeting of the Ohio State Railroad Surgeons, in this city. The meeting was announced with a great flourishing of trumpets and a most formidable appearing program covering three days. Notwithstanding all the newspaper notoriety and other advertising, only a handful of railroad surgeons was present, and all the business of the meeting was transacted and papers read in two short sessions. But this is only an example of the tendency to form district, State, tri-State, National, and every others possible excuse that can be thought of to organize new societies. The men who organize and run and get all the eclat and offices and free advertising from these societies, are not as a rule, the men of real scientific ability, and not usually the men who are respected by their fellow-workers at home. In fact, they are too often the men who are in bad odor and who do not hold the esteem and respect of those who know them best, and consequently are obliged to go away from home, where they are not known, in order to secure these positions of honor. Not infrequently these men manipulate the State and National organizations for their own purposes as long as possible; and when they are found out and turned down, they go off and organize a new society.

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And the pity of it is that the respectable, well-meaning, intelligent, scientific practitioners will go into these new organizations and lend to them a certain respectability; and, in fact, without the labors of these unselfish members of the profession, they could not and would not exist.

Consequently it is of great importance for every one to carefully investigate the claims for existence which every new society has upon the profession, before lending it support. If properly conducted, the county, State and American medical associations would fulfill all the requirements of medical organizations of a State or National character; and in larger towns, one or more local societies would meet all the necessities of the case By dividing the work into sections, as is done in the large Eastern cities, many of the local societies might be dispensed with. As a matter of fact, the great bulk of the work will be done by a limited number of individuals, no matter whether there is one or a dozen local organizations. The same is true of district, State tri-State and National organizations; but the disadvantage of having a multiplicity of societies is much greater in the larger bodies. It is becoming impossible for a man to attend all the medical societies he might wish to, as at present organized.—Cleveland *Med. Gaz.*

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Roger Williams, M.D., Pittsburg, Pa.

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Elixir calisayæ,
Elix Nutrans (A. W. & Co.), - - - aa fℨij.
M.
Sig. Teaspoonful three times a day.

Hypochondria.

℞ Neurosine, - - - - - - - - one bottle.
Sig Teaspconful twice or three times a day.

Menorrhagia.

℞ Dioviburnia, - - - - - - - - fℨiij.
Fl. ext. ergot, - - - - - - - - fℨj.
Acid. sulphuric, dil., - - - - - - fℨj.
Syr. cinnamon., - - - - - - - - fℨj.
M.
Sig. Tablespoonful three times a day.

Cerebro-Spinal Meningitis.

℞ Neurosine, - - - - - - - - - ℈ℨj.
Chloral hydrat., - - - - - - - - ℨss.
Syr. aurant. cort., - - - - - - - - fℨj.
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Sig. Dessertspoonful well diluted every two hours during the stage of excitement.

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℞ Auri et sodii chlor., - - - - - - gr.ij.
Extr. gentian., - - - - - - - - q. s.
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℞ Suppositorii Cocain. Comp. (S. B. M. Co.), - No. 12.
Sig. One suppository to be inserted per rectum once or twice a day.

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A Mascot That is a Mascot.—The Physician's Aluminum Pocket-Piece, given away by the Codliver Glycerine Co., of St. Louis, on request, is said to be more potent as a mascot, or luck-piece, than the right hind-foot of a black rabbit, captured in a grave-yard, by a cross-eyed negro, at the hour of mid-night, on the 29th of February, in the dark of the moon. It is also claimed that physicians that prescribe Codliver Glycerine are even luckier. Try it.—[Ex.

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ORIGINAL ARTICLES

Gastro-Hysterotomy; or A Case of Cesarean Section.

BY J. W. SMITH, M D.

Read before the St. Louis Medical Society, February 10, 1894.

On July 8, 1893, I was called to see Mrs. Julia M., age 18, a German, married, and living on South Third street. The family lived in two dark and poorly venti lated rooms, on the second floor of a two story brick tenement, surrounded by conditions very much adverse to antisepsis; cooking, eating and sleeping in the same apartments. I found the patient, a young, vigorous, healthy and apparently well developed woman, suffering with severe and almost continuous labor pains.

She had been informed that the operation of craniotomy or embryotomy on the child, or that of Cesarean section upon herself, were imperative as a means of saving her own life and probably that of a child. The opinion was given, after the attending physicians had unsuccessfully tried to apply the forceps.

The family was consulted, the patient consented, and I was sent for. The husband called for me early in the morning and, although my morning consultation hours had not ended, I responded promptly.

Family history.—Mother has given birth to fourteen children, and always had, what she called, a hard time, but labors usually did not last long. One sister has remained sterile. In the case of another sister, Dr. Hinchey, the attending physician, informs me, that forceps were required to affect delivery in three out of four cases.

Patient was a primipara, and had had an uneventfull pregnancy, until time of labor. She had had no vomiting or morning sickness. There was, upon her countenance,an expression of exhaustion from the long suffering of labor. She was restless and so nervous that I could hardly control her sufficiently to make an examination.

Upon inspection I found a woman of short and thick build. The abdomen was very much distended. Upon palpation through abdominal wall I could feel fetal movements and auscultation revealed fetal heart beat, best heard in the upper part of the abdomen to the right of the median line.

Upon degital examination, I found a very small and contracted pelvis, antero-posteriorily, but more marked laterally. Measurements were not taken. In feeling for the os, which was very high up and imperfectly dilated, my finger came in contact with a protruding, pedunculated body, of oval shape, rather smooth and somewhat baggy. By exercising some force and moving this body from side to side, I could make out its attachment to a larger and firmer body within the uterus, which I knew to be that of a living child, having felt its movements and heard the fetal heart-sounds.

I was wholly unable to satisfy myself as to what position I had to deal with as I was satisfied that it was not the head or extremety of the child, nor could I think of any portion of its body to which this tumor might be attached. I could not determine what the tumor might be. The suggestions, which offered themselves to my mind were, pedunculated caput succedaneum, fibroids and polypi, all of which were easily excluded, as I could trace the attachment of the tumor to the child, but not to its head.

My conclusions were in harmony with those of the other doctors, namely, that it would be utterly impossible to deliver the woman, by any other than surgical means, if human life was to be spared. The case having been placed in my hands, I was left to choose one of the various operations suggested and recommended for conditious such as now presented itself before me. After due consideration of many, of some of which I shall speak later, I chose Cesarean section.

It was now about half past nine o'clock in the forenoon, so I set 12 M. as the hour for operation, realizing that it would require at least that length of time to prepare and sterilize instruments and secure assistance. Drs. Hinchey and Krebs were invited to the operation, as were also Drs. Marks and Born of the city hospital, Drs. Holscher, Guhman and Wilson of this city, and Dr. Pace, of California, who was here on a visit at the time. All responded save Dr. Krebs and Hinchey, the latter however visited the patient afterwards. Dr. Holscher administered chloroform, Drs. Marks and Guhman acted as first and second assistants, Dr. Born gave his to threading needles and preparing sutures, and Drs. Wilson and Pace prepared the sponges and solutions.

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Everything being ready, the patient was prepared for the ordeal. The abdomen and pubes were shaved and made as thoroughly antiseptic as possible. The patient was placed upon a table, chloroform administered, and the assistants arranged as indicated. Catheterization of the bladder was performed, and the abdomen, except the field of operation, covered with towels wrung out of antiseptic solution.

An incision was made, beginning two or more inches above the umbilicus, carried directly through it, and extending down to within two inches or less of the pubic bone. This distance must not be estimated on a normal abdomen but on a very much distended one.

I desire here to call attention to a point which, it seems to me, is deserving of more than passing notice. I have not seen it described in any text-book on surgery, nor have I seen or heard any operator describing it; *i. e.*, that of removing the umbilicus. When it is necessary to extend the incision to or above the umbilicus, my rule has been to incise through it, and not to one side, and then with the scissors to clip out either side. This is in my opinion a safeguard against hernia, at or near the umbilicus. The argument against it is, division of the suspensory ligament of the liver. But it has never presented any ill after-effects in my experience, and I have removed it in a dozen or more cases with gratifying results.

My first operation to remove the umbilicus, was in a stubborn case of multiple umbilical herniæ. There were five openings, and the prolapsed gut could not be held back by a truss or abdominal supporter. The patient was forty years of age, mother of five children; her abdomen was large and redundant, and she had more or less trouble all the time. I advised an operation for radical cure, and after about six months' consideration, during which time she had a great deal of trouble, for the herniæ were growing, she consented. The operation consisted in removing the umbilicus and the tissue intervening between the openings, so as to insure perfect apposition of the cut surfaces. The operation resulted in a perfect cure.

There was little hemorrhage from the abdominal wound, torsion with hemostatic forceps being sufficient to control the same. The peritoneum being reached, it was incised throughout the full length of the abdominal incision. The uterus protruded through the abdominal opening. It was apparently very large, blood-vessels were numerous, tortuous, and distended. The uterus was movable only to a limited extent, and as it was my desire to do the simplest operation, I did not attempt to forcibly dislodge it from its normal position. It might occur to an operator, that the ideal proceedure would be, to extract the uterus from its lair, bring it well outside of the abdomen, incise and empty it. This, in my opinion, would be a great mistake if it required great force, as great injury might thereby be done to the tubes and ligaments. Neither can I see any particular advantage in this procedure, unless it were to amputate, or remove the tubes or ovaries.

After the intestines had been pushed upwards and backwards I packed the space between the uterus and abdominal walls with large abdominal sponges.

The sponges were of the same kind that I use in all other abdominal or cerebral surgery, and are prepared by myself or a trusty assistant under the strictest antiseptic rules, as follows: Absorbent cotton clipped with sharp scissors, not pulled or pinched off, in pieces to suit operators' fancy, and sterilized bichloride or carbolated gauze cut in pieces to suit their purpose, washed in distilled water and sterilized. The gauze is now wrapped in two or three layers about the pieces of cotton, which act the part of sponge. Several layers are used, so that none of the cotton fibers can penetrate through the meshes of the gauze. The edges are now carefully stitched with a sterilized needle and fine silk. When sponges are prepared in this manner we have, in my opinion, an ideal sponge for visceral or abdominal and brain surgery, and we are able to feel much better satisfied, as we need have no fears of infection from that source.

The incision of the uterus was the next step in the operation. It was begun at the fundus and carried straight down, a distance of twelve inches or more.

The uterine walls were thick and very vascular, hemorrhage being very profuse until the entire incision was completed into the uterine cavity. As the uterine walls were divided, the first assistant grasped them thereby arresting hemorrhage. Not a forceps was used nor a vessel tied during the entire operation.

We now found a rather peculiar position of the child, it being a breach presentation, with the back of the child to the back of the mother, its buttox resting in the inferior pelvis. Instead of the thighs being flexed upon the abdomen and the legs upon the thighs, they were extended, one foot resting upon either side of the shoulder. The child was so firmly wedged in this position, that it was removed only with great difficulty. This was affected by loosening the feet, grasping them firmly, making extension upon them, and thus disengaging the buttox from the pelvis. The hand was now introduced under the breach and by continuing extension by the feet, the child was delivered. It was apparently asphyxiated, in part from disturbance in circulation resulting from incision into uterus, but largely due to the vigorous manipulations necessary to dislodge and remove it from the pelvis.

Dr. Marks now grasped the uterine walls on either side, thereby preventing unnecessary bleeding.

Having hot and cold water at hand, we applied the same alternately to the child seemingly without effect. I now hastily introduced my finger into its mouth and swept it around the fauces, in order to dislodge the mucous, should there be any. Its mouth was now sponged, and I inflated the lungs, by blowing into it. The chest walls were next compressed, and this proceedure repeated several times, after which the child began to breath. Hot and cold water was again applied and the child began to cry. Pulsation of the cord having

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ceased, it was tied and divided, and the child handed to the nurse.

I could not help noticing the tumor, which had so completely baffled me in making a diagnosis by a previous examination per vaginam. It now amused me somewhat which was quite the reverse of my feelings when at first attempting to make a diagnosis. The tumor was nothing more nor less than a very much swollen and distended scrotum, almost as large as the child's head. It was the largest scrotum that I have ever seen in a child, excepting possibly in cases of hydrocele. It was produced by the position of the child, allowing the scrotum to fall just where the contractions of the os would grasp it. An impaired circulation, and possibly blood stasis, was caused by the squeezing and bruising accompanying the contractions of the os, and possibly by some injury from the forceps.

There was now little or no bleeding from the uterus. The placenta was found on the right side, entirely away from the line of incision, and was almost freed from its attachments in consequence of the rapid contractions of the uterus. The placenta and a few blood clots were now removed, and the uterine cavity flushed with hot water, care being taken that no fluid entered the abdominal cavity. The time consumed from the beginning of the uterine incision until it was ready to be sutured, I should say, was less than five minutes. The uterus was stitched as follows: A deep suture penetrating the entire uterine wall, alternated with a superficial one including only half the muscular tissue. The needles used were long curved ones, and the silk was No. 4 braided, prepared by myself.

Here occurred, to my mind, one of the most beautiful demonstrations that I have ever witnessed; that of uterine contractions. Seemingly, the pricking of the needle would excite additional and more rapid contractions, notwithstanding the patient was thoroughly anesthetized with chloroform. The incision, which at first was twelve inches, had contracted to less than four after the introduction of the sutures.

The sponges were removed, the intestines allowed to replace themselves, and the omentum drawn over the uterus and in such a way, as to be interposed between the uterine and abdominal incision.

The incision was now closed with eighteen interrupted sutures of No. 9 braided silk. No intermediate or superficial stitches were required. The external wound was dressed with bichloride gauze and absorbent cotton, retained by a roller bandage which was re-enforced by a towel pinned over it.

The patient was put to bed, and given $^1/_{30}$ grain strychnia hypodermatically. She soon regained consciousness. As strychnia and whiskey have yielded such good results in my hands after abdominal sections, I prescribed it in this case, advising that she be given $^1/_{40}$ grain strychnia hypodermatically every six hours, and two ounces whiskey in hot water per rectum every four hours. She never complained of nausea or vomiting.

Mr. Lymann, a medical student, kindly consented to watch the patient, and see that she would get her medicine as directed. He proved to be a faithful nurse.

I saw patient in the evening after the operation, and upon the following morning, and found her resting easy, having slept during the night she felt refreshed. Her pulse was 80, and temperature 99°. Complained that she was hungry, and this was a permanent symptom. It never ceased until gratified, although I have never treated a patient who complied more strictly with my directions. She had no after-pains, and the excretions from the uterus were in every respect the same as after normal labor and continued so throughout. The baby was doing well. It slept, nursed easily, bowels moved, and as the swelling of the scrotum and prepuce subsided, it passed urine freely and without difficulty.

I visited patient again on the morning of the 10th, and found mother and baby doing well. Patient could pass water, pulse and temperature were as on the day previous, and she slept during the day and night. On the following morning I was hastily summoned, and found the patient very much excited and attempting to leave the bed. Pulse was 100 and temperature 101.1°. The change wrought in less than twenty-four hours was quite marked and what looked so promising the day before, was now somewhat doubtful and discouraging. The cause was merely a family dispute, and I insisted that all persons not actually needed retire and remain away.

On the following morning I found patient in every way improved. Pulse was 90, temperature less than 101°; had slept well and ceased worrying. The baby, however, was sick. Unfortunately the nurse, a German lady, 70 years old, thought that the child could not live without tea, sugar water, and last, but not least, "kuemmel," and drenched it thoroughly with them. The child was suffering with a severe attack of cholera infantum. On the morning of the 13th, found mother doing well. Pulse 80, temperature 100°. Abdominal wound was perfectly dry, and I did not disturb the dressings. The baby was no better and would not nurse.

I called again on the 14th, found mother's pulse 80, temperature less than 100° which it never again reached. The child was much worse and died that afternoon six days after birth.

On the 16th, I removed dressings and stitches and found union by first intention throughout, except one stitch-abscess low down, which may have become infected from under the edge of the dressings.

There was nothing eventful in the further history. She did not wear an abdominal supporter after leaving her bed, although her abdomen seemed distended, a condition which she claimed was always so. She was in bed about four weeks, though allowed to sit up the latter part of that time.

Cesarean section is said to have been performed by Nicola de Falcon in 1491. It was performed in 1500 by Jacob Nuffer, a sow gelder, the patient being his

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wife. She recovered and afterward bore several children.

Rousett, in 1581 wrote the first treatise on the subject, and had performed the operation a number of times. Libas, in 1769 and 1771, was the first to close the uterus with sutures. This procedure was lost sight of until 1828, when it was done in this country by Dr. Frank Polin, of Kentucky, who first used the silver wire suture for the uterine wound. Leopold's first Cesarean section, 1882, was on a patient who had undergone the operation of embryotomy three times before. Lungren has collected all the cases of Cesarean section performed on the same women, and gives the following result: On 48 women the operation has been performed 119 times, 8 mothers only having died and 40 saved. It seems that in subsequent operations its gravity lessens.

Symphyseotomy was first proposed by Sigault in 1768, as a substitute for Cesarean section, and reserved his name. The "Sigaultian" operation, after having occupied the obstetrical world for nearly half a century, fell into oblivion, until its recent revival by Mariani, of Naples. Harris states that, from 1866 to 1881, under Mariani and Novi, of Naples, 43 women and 42 children were saved by 53 symphyseotomies; showing 19% fatal to mothers, and 21% to children. I have never performed the operation, nor have I ever seen a patient who had undergone it, but I do not consider it an improvement on Cesarean section. In the first place, statistics as shown by Harris do not bear it out. The fatalities to mothers, in Cesarean section, as given by Leopold at 15%, it is true, is probably the best result recorded. The fatalities to children varies, as given by different authors, from 8 to 14%. May we not expect impairment in locomotion, after division through the cartilage? Even should we obtain union by first intention, the best result we could hope for, may we not expect bony union in the consequence of the disturbance to the cartilage? Every surgeon knows that stiff or ankylosed joints are sometimes produced by ossification of the cartilage, a result of an inflammation extending from the synovial membrane. Will locomotion, after symphyseotomy, ever be as light and graceful as before? Who can tell that the woman will never become pregnant again; and should pregnancy occur, should we saw through the bony pelvis this time? If the pelvis be small and the child large "the strongest argument for symphyseotomy," is there not danger of inflicting irreparable injury to the ileo-sacral articulation? Should sepsis enter, we may have no union at all.

The operation of craniotomy is a very old one. The ancients entertained the belief that, in difficult labors, the unborn child was an unjust aggressor against the mother, and must therefore be sacrificed to save her life. Harris reports that up to 1885, 2000 children were annually destroyed by craniotomy in Europe. Bussy says, craniotomy has been performed in cases where delivery could have been safely accomplished by the forceps, turning, and even by the unaided power of nature; and there is no case known to him where a woman, on whom section had been performed, has refused to submit to its repetition in subsequent pregnancies. In Belgium Cesarean section has been performed seven times on the same woman, in Philadelphia 3 times, and De Bretannaux of Tours has performed it six times on his own wife. The legitimate aspiration and tendency of science is, to eliminate from obstetrics, craniotomy on the living child.

Late reports of the Dublin Rotunda hospital show that in 3631 cases of labor, craniotomy was performed only four times. In three of these, positive diagnosis of death of the child was ascertained before the operation, and in the other it was doubtful. More Madden the celebrated obstetrician, of forty years experience, never performed craniotomy once. Tait remarks, that he feels certain that the profession will before long, give up the performance of such operations as are destructive to the child, in favor of Cesarean section which saves it and subjects the mother to little more risk. In two years we shall hear no more of craniotomy, for the new method will save more lives and is far easier of performance. It is the easiest operation in abdominal surgery, and every country practitioner ought to be able and always prepared to do it, so said Lawson Tait in 1888.

In no line of surgery has antisepsis so conclusively proved its merits, as in abdominal and cerebral surgery. It was the ever present hungry germ of suppuration that has been, since time immemorial, the offending cause of successful surgery. Until a decade ago it drove God's willing workers, who were ambitious and religiously inclined to save both mother and child, to seek in fields unexplored for some form of operation to lessen the great mortality. This great desire led ambitious workers, who did not then even know that micro-organisms existed and that they were robbing them of their deserved fame, to experiment in animals, removing the uterus, believing thereby to give the mother a better chance for recovery. Cavallini, of Florence, Italy, in 1768, published a report of the results of his experiments upon dogs and sheep, for the removal of the uterus and appendages. He successfully removed from a bitch the pregnant uterus. Blundell of London in 1828, wrote that the fatalities in Cesarean section might be diminished by the removal of the uterus. Prof. Porro performed similar operations upon pregnant rabbits, with recovery in every instance. It had been performed seven years prior to Porro's first operatiok by Stover of Boston. He was driven to it by the condition of the patient. He had incised into a uterus that had undergone fibro-cystic degeneration, and was obliged to amputate at the neck in order to avoid death from excessive hemorrhage. He did not, however, suggest the operation as a substitute for the old Cesarean section.

Prof. Muller in 1878, modified the operation as done by Prof. Porro, by making a long abdominal incision, delivering the uterus through the abdominal opening,

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applying a constricting wire about the neck to control the bleeding, incising the uterus quickly, and removing the child. The advantages claimed by him were, that he could better control hemorrhage, and prevent fluid from entering the abdominal cavity. The better results from the Porro or Porro Muller operations, over Ce sarean section, may be explained by the inevitable sepsis following before the days of antisepsis. The stump could be drawn out, fixed and treated supra-peritoneally, thereby allowing the septic accumulation to drain off.

To Lister belongs the unfading glory of having set forth the subject of antisepsis. He made it possible to modify and lessen the mortality, not only in Cesarean section, but in every line of surgery as well. To him we should ascribe more glory than to Prof. Porro and Muller, for his modification is a great improvement over their's.

Cesarean section has been performed for puerperal eclampsia. Dr. Boisliniere of this city says: it should be done when the symptoms are very grave; the woman in a state of prolonged and deep coma; the os remaining closed so as to prevent the use of forceps or version; in case of cancer or some tumor obstructing delivery completely; or convulsions not yielding to medication or surgical interference. In these cases it should be performed as early as possible. It has also recently been done for placenta previa.

With the remarkably good results in Cesarean section of to-day, are ve ever justified in performing craniotomy on the living child. I shall again quote Dr. Boisliniere of this city who says emphatically; no, never in any instance shall we kill the living child to save the mother's life, but we should give mother and child their best chance. "The mortality to mothers, before antisepsis was 50% or more, and now it may be as low as 15%, as shown by Leopold. The mortality to mothers in crani otomy, was then much greater than now. The mortality to children in craniotomy stands to-day as it did then. Skilled and antiseptic surgery have not lessened that dreadful death rate of 100%. Halle and Dresden (Berlin) report the mortality in craniotomy at 6% approximately. Cavouse, a late and reliable statistician, sums up the result from the different clinics and finds that craniotomy shows 93% of recoveries to mothers. He concludes that craniotomy on the living child is to be superceded by Cesarean section, as the mother has 3 of 4 and the child 9 of 10 chances for life.

Is it a physicians duty or mission to kill a defenceless child, for the so called excuse of saving the mother, when he has as good or better facilites at his disposal for furthering, not only the life and welfare of the mother, but for giving the helpless and defenceless child a chance to live? I cannot imagine that any surgeon armed to date with the knowledge of antiseptic surgery, would forever maim and take from God's crowning attribute, woman, her greatest right and mission on earth, that of procreation; render her sterile, deprive her of all future rights of wife and mother, by removing her uterus and its appendages, and lessening her chances for recovery. All done because she could not give birth to the child. The dreadful mortality has been due to sepsis, not from the operation.

Would any surgeon amputate a leg for a sequestrum of bone, or would he remove the sequestrum and save the useful member? But this is a poor comparison. The patient with the amputated limb can get, at a nomimal cost, an artificial one and get along fairly well with it. The poor woman who has lost her uterus, can not get an artificial one, she can have but the one that God Almighty gave to her. We should consider well before we remove it. This applies to obstructions and causes non-malignant.

Gentlemen.—This patient, whom I have the pleasure of presenting to you this evening, understands in a true sence, the full meaning of Cesarean section, having willingly sumitted to it once. She tells me that she is anxious for an heir, and is willing to undergo a similar operation to have one. This is another link in the chain, that warns us to think and carefully consider before we cut away that organ for which there can be no substitute.

The discussion on this paper will appear in next week's issue.

Correction.—We regret that in an article by Chas. A. Oatman, M.D, entitled: "Case of Rectal Stricture With Pyonephrosis of the Left Kidney," published in the issue of the REVIEW of January 20, an important error has been overlooked, viz: On page 46, line 14 and 18, "whalebone bougie" should read "Wale's bougie."

The Young Doctor's Presence of Mind.—"Speaking of doctors' bills," said Cooper, as he elevated his feet and lit a cigar; "I have recently had revealed to me a depth of nerve which I supposed was possessed only by gas men and plumbers. You know young Dr. De Ploma?"

"Yes."

"Well, you know when he was graduated and came here to practice he was pretty sweet on my daughter Grace for awhile?"

"Yes."

"Well, one roasting day last summer she met him down town while she was out shopping, and he asked her to have a glass of soda water at Fizz & Foam's."

"Very nice."

"Wait. Little while after that he popped and Grace threw him over."

"Poor fellow!"

"Yes, Poor fellow! But he had his wits about him and yesterday I got this bill:

JAMES ALFRED DE PLOMA, M.D.
Office Hours.
12:01 A.M. to 11:59 P.M.

G. COOPER. Dr.

July 4. To treating daughter - - $3.00.

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EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

All letters containing business communications or referring to the publication, subscription, or advertising department of this REVIEW, should be addressed to 914 Locust Street, St. Louis.

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Should Consumption be Reported to the Health Authorities?

The following resolution has been adopted by the Michigan State Board of Health:

Resolved, That hereafter, consumption (and other diseases due to the *Bacillus tuberculosis*), shall be included in the official list of 'diseases dangerous to the public health,' referred to in Sections 1675 and 1676 Howells statutes, requiring notice by householders and physicians to the local health officer, as soon as such a disease is recognized."

In this resolution the question of isolation of the patient is not mentioned. Its purpose is to secure to the local health authorities and to the State Board of Health information of the location of each case of this most dangerous disease, with the view of placing in the hands of the patient reliable information how to avoid re-infecting himself or herself or giving the disease to others, and in the hands of those most endangered information how to avoid contracting this disease.

HENRY B. BAKER, Secretary.

This resolution has since become a law in the State of Michigan. But will it serve its purpose? There can be no doubt that in the ideal sense it is highly commendable, but practically it will probably not have the effect for which it had been intended. There are patients for whom it is better not to be informed that they are consumptive, it would so depress them that more harm would be done than could be counterbalanced by any precaution to prevent a re-infection. It will create unnecessary anxiety. It is cruel. With regard to this disease we think it is best to leave the precautions to be taken to the judgment of the attending physician entirely. Let him, with the help of his patient's friends, decide whether the patient should be informed of his condition. With some patients no risk would be incurred by informing them of the exact nature of their affliction, while with others the risk would be great. In the latter case only those that come in contact with the patient should be informed and made acquainted with the precautions necessary. Every well-informed and conscientious physician will do this. Our Boards of Health should inform the public as to the danger of exspuition upon the street, of drinking unsterilized milk and of the necessity of an improved meat inspection. Sanitary science should be taught in the public schools, together with physiology and anatomy. We all will continue to inhale tubercle bacilli as long as the public is ignorant of the measures necessary to prevent it. But with all the knowledge upon the subject, could a child be induced not to kiss a tuberculous mother or a husband his wife, for fear of being infected? This nobody will expect, no more than that a physician would shrink from exposing himself to infection in the dissecting room, or laboratory, or at the bedside. If life were deprived of all sentiment for the sake of self-preservation, would it be worth living? We earnestly hope that no other State will adopt a similar law. As already stated the measures necessary for the protection of the family and friends should be directed by the attending physician, who should be able to do this as thoroughly as any Board of Health.

Hepatic Abscess.

Hepatic abscess not infrequently escapes the detection of skillful surgeons, because its diagnosis often is a difficult matter and must frequently be made with much reserve. A history of dysentery is of much importance as a subjective symptom in the diagnosis, although abscesses of the liver may, of course, occur in consequence of many other causes, particularly inflammatory foci in the radicals of the portal circulation and, in fact, in any part of the body. In tropic regions the excessive indulgence in alcoholic beverages no doubt predisposes to hepatic abscess by weakening the resisting power of the tissues against pyogenic bacteria. We have read with much interest a paper upon this subject by James E. Thompson, M.B., B.S., published in the *Medical News*, February 3, 1894, of which we have made the following excerpt:

The diagnosis of hepatic abscess may be the easiest possible, or beset with numerous difficulties. Occa-

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sionally we can only suspect hepatic abscess from such symptoms as pain and elevation of temperature, the other signs being bulging of the lower costal zone and dyspnea; enlargement of the liver may be imperceptible, even to the most accomplished diagnostician. It is in the latter cases that most of the difficulty of diagnosis arises, and it would be better in cases in which there is persistent elevation of temperature and pain in the region of the liver, if the lungs are free from disease, to proceed to puncture the liver with an exploring needle. Early and complete exploration is a harmless procedure, and would be the means in many cases of discovering abscess-cavities before they have attained a great size. But this exploration is occasionally fallacious, for an abscess-cavity of fair size may be present and puncture will fail to detect it. This has often occurred, and is usually due to one of two reasons: either because the contents are too thick to run through the needle, due to caseation of the pus, or due to the naturally thick nature of the pus in the early stages of amebic abscess, or the cavity has been missed by the needle. This occurred in Quenu's case; the liver was exposed by an abdominal section, and explored in all directions without finding pus. A few days afterward the autopsy revealed an abscess-cavity containing two liters. Even when pus is discovered by the aspirator, the diagnosis from other inflammatory affections in the neighborhood, such as "basal pyothorax" and "subphrenic abscess," may be difficult; and although in the majority of cases by careful attention to detail we can avoid such mistakes, still, occasionally, even in the hands of skilled diagnosticians, such faults have occurred.

The physical signs of the three affections are very similar, and in many cases those of subphrenic and hepatic abscess are identical. Careful microscopic examination of the pus will sometimes clear up a doubtful case, as the presence of liver-cells is always conclusive of hepatic abscess.

If pus be discovered, and its hepatic origin found, the next question that presents itself to a practical surgeon is as to operative interference.

Now the presence or absence of adhesions of course makes a great difference in the immediate mortality, for, if present, there is no danger of infection of either pleural or peritoneal cavity. Adhesions can never be diagnosticated with absolute certainty, but there are certain signs that, when present, render it extremely probable that they exist. These are: the presence of edema in the abdominal or thoracic wall; absolute fixation of the liver to the parietes, as shown by its non-descent during inspiration; and the presence of pus at a small depth from the surface. Nevertheless the absence of adhesions ought not to influence a surgeon in the slightest degree as to the propriety of speedy evacuation of the abscess cavity. One knows the rapidity with which some of the abscesses form, and their liability, after reaching a certain size, to burst into various cavities and organs. Therefore, as even twenty-four hours may be too long a time to wait, no surgeon should hesitate to proceed to evacuation because no adhesions exist. It seems to me an axiom that "in abscess of the liver, whenever the diagnosis of pus is made, the only proper treatment is by early and large incision."

On reviewing the older methods of operation, it appeared to me that they group themselves into two main divisions:

1. Those in which the abscess-cavity was treated by aspiration, or a modification of this in which various forms of trocars and canulæ were employed.

2. Those in which a more or less free incision was used.

In considering the first class, we are necessarily struck by the fact that aspiration has been credited with many successes. This is, of course, not surprising, as it is the result of experience that aspiration of abscess-cavities elsewhere has also resulted in some successes; but, because we get an occasional cure by aspiration, does it follow that this must necessarily be the proper method? Do we follow such a line of reasoning in tuberculous cavities, and in pyothorax? When one considers the thick character of the pus in most hepatic abscesses, it can only be a matter of wonder that aspiration has been as successful as is reported. The introduction of a large trocar and canula is less objectionable, but even here we run a great risk, for although for a time the sides of the puncture press closely upon the canula, and prevent extravasation, in a short time pus may escape alongside the canula and infect the peritoneal cavity. To avoid this contingency, Macleod arranged an ingenious apparatus whereby the canula was withdrawn and a rubber-drainage tube, tightly stretched, left in its place. The drainage-tube, which had side openings only at the inner end which lay in the abscess-cavity, was released, and resuming its normal diameter completely filled the channel previously occupied by the canula; the rubber pressed on the sides of the wound, and prevented any extravasation into the abdominal cavity. This operation has been very successful in Macleod's hands, and is certainly the best of its class.

In the second class of operations, in which an incision was employed, we find many curious methods, some of them carefully guarding against infection, others blindly ignoring all surgical principles. Recamier opened the abscess in two stages. His incision went through all structures as far as the parietal peritoneum; then, packing the wound, he waited until adhesions had formed, when the abscess-cavity was opened. Begin cut through the parietal peritoneum; and then, placing an antiseptic plug in the wound, waited until adhesions had formed around the opening. Another crude method was to incise down to the parietal peritoneum, and then to complete the process gradually by caustics placed in the wound. Adhesions formed, and in many cases the abscess opened spontaneously.

Little planned an operation, the chief merit of which consists in its boldness. Having determined the presence of pus, a bistoury was passed along the needle of the aspirator, and, in defiance of anatomic conditions, a

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free opening was made, through which the abscess was evacuated. The number of successes obtained by this method is marvellous, and can only be explained by the presence of adhesions in the majority of the cases operated on. Defontaine found five cases in which this method had been used and in which it was proved that no adhesions existed. Of these, three died, the cause of death in two being peritonitis. He said, in reviewing this method, that a single death from this cause ought to be a death-blow to the operation. The more scientific operations are of recent date, and, like those for the radical cure of hernia, depend more on anatomic knowledge and surgical skill than on chance. Whether the abscess lies under the thoracic or abdominal walls, the incision is made methodically through all the layers, and each cavity is dealt with in such a manner as to shut it off from all chance of infection.

I. Cases in which the enlargement of the liver is abdominal, and no adhesions exist.

For a long time it was doubted whether, with any degree of certainty, the liver should be stitched to the abdominal walls, but when the fact was demonstrated a way was at once opened for the treatment of both hydatid cysts and hepatic abscesses. Horner first performed the operation, and was soon followed by Bouilly; and then McLane Tiffany conceived the idea of detaching the edges of the parietal peritoneum for some distance, and uniting them to the convex surface of the liver. If this separation is done with care, the two edges of the peritoneum hang like a curtain, and can be sutured to the liver, their length of pendulousness, allowing free respiratory movement without dragging on the stitches.

When the hepatic enlargement is abdominal, we open the cavity and expose the liver. The organ is carefully examined and inspected, and in one case the presence of a second abscess was determined. The peritoneum should be detached from the edges of the incision for some distance, and united by points of suture with the surface of the liver, leaving a sufficiently large space for the proper evacuation of the abscess-cavity. The sutures require careful manipulation, and there should be at least two concentric rings. The peritoneum should also be long enough to allow for the respiratory movement of the liver without undue dragging on the sutures. Occasionally the abscess has been evacuated before applying the stiches. In this case the sutures should pass through a fair thickness of liver-wall, but should not touch the abscess cavity. It is, however, better, unless there are urgent reasons to the contrary, not to open the abscess-cavity immediately, but to aspirate and allow time for adhesions to form before proceeding to thorough evacuation.

II. Cases in which the enlargement of the liver is upward toward the thoracic region.

In these cases the transpleural incision is undoubtedly the best. First proposed in 1886, by Knowsley Thornton, it has since been successfully carried out by many operators. Thornton excised the seventh and eighth ribs, opened the pleural cavity, elevated the diaphragmatic pleura and stitched it to the parietal pleura, incised the diaphragm, and opened the liver abscess without taking any precautious against peritoneal infection. Terrier planned what must be considered a perfect operation. An incision eight centimeters long was made in the eighth intercostal space, the ninth rib resected for an extent of four centimeters, the pleural cavity opened, and the diaphragmatic pleura stitched to the parietal pleura. The diaphragm was incised and the lips of the wound united to the liver by silk sutures, thus forming a channel passing from the surface of the body which had no communication with either pleural or peritoneal cavity. The abscess was then opened with a bistoury and drained. This method of Terrier is undoubtedly the most perfect. It has a faultless technique, and has yielded good results.

Some objections may be raised to this transpleural method on account of the immediate danger of collapse of the lung, and the more remote danger due to infection of the pleural cavity. Collapse of the lung is not likely to occur. It was not noticed in Terrier's case or in my own, and further, in many wounds of the chest the lung fills the pleural cavity, in spite of a large opening. Even if collapse did occur, I think it would be temporary only, unless fluid collected in the pleural cavity. The later dangers, such as pyothorax and pneumonia, depend upon the completeness with which the technique of the operation is carried out.

In conclusion, I should like to mention a few points on the treatment of the cavity after the contents have been successfully removed.

It is often exceedingly difficult to obtain free drainage, even when large tubes are employed. In some cases even swabbing the walls of the cavity is ineffectual, and these cases are practically hopeless, owing perhaps to inherent tissue weakness. I tried curetting in one of my cases, and although I removed, as I thought, all necrotic tissue, still in a few days the cavity was as bad as before. Continuous irrigation often affords a means of efficient removal; but the tubes have an aggravating habit of being blocked, necessitating frequent changing and cleaning.

Irrigation with a solution of quinin sulfate—1:1000—was in one of my cases remarkably successful, and although the improvement may have been a coincidence, and not a *post hoc ergo propter hoc*, I think that in cases of amebic dysentery at least it deserves a fair trial.

The American Medical Publishers' Association.

It is now about concluded the next meeting of this Association will be at Old Point Comfort, but the time of meeting has not yet been fully determined, although we understand most of the members are favorable to the meeting being held the early part of August. This would seem to be the most appropriate time, not only

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from the fact that the Publishers have but little business to keep them at home during this dull month, and whearas most of them are fortunate enough to have families whom they are in the habit of taking with them for an outing during the summer. Old Point Comfort has long been recognized as being the most pleasant place to spend the summer months; furthermore, the accommodations of the lines of the roads running from the West to this place are unexcelled. The Big Four and Chesapeake & Ohio running direct, with all the most modern equipments for convenience and comfort. The Ohio & Mississippi and Baltimore & Ohio has also direct lines running from the North and South. There are a number of roads leading from the East to this place which will enable the members of the East to reach this point without necessarily lossing much time. It is not probable that many of the Medical Publishers are so eager for filthy leucre as they would deprive their families and themselves of spending two or three weeks at this prominent resort during the hot, dull month of August. We think a larger number of the medical publishers will prefer, for the foregoing reasons, to have the meeting during the month of August It is a well-known fact that business men in the Eastern cities take this entire month for their vacation, and we in the West are rather inclined to think that such would be invigorating for both the mind and body to take this month for recreation. Should the meeting be held at Old Point Comfort, say August 15, the Western members would enjoy the remaining portion of the month at this place and having become so refreshed that they would be able to take a run East and rake in a large number of advertisements, returning to their home refreshed for business. The necessary expenses will be very small, as almost all the Publishers of Medical Journals can have extended to them the courtesies of the railroads in consideration of a little printer's ink. Dr. Chas Wood Fasset, of St. Joseph, Mo., Secretary of the Association, will be pleased to have expression from the members as well as those who contemplate becoming members as to their views as to the time that will be most convenient for them to attend the forthcoming meeting. The following journals are among those already enroled:

American Journal of Ophthalmology, St. Louis, Mo.
American Homeopathist, New York, N. Y.
American Lancet, Detroit, Mich.
American Practitioner and News, Louisville, Ky.
Annals of Gynecology and Pediatrics, Philadelphia, Pa.
Annals of Hygiene, Philadelphia, Pa.
Annals of Surgery, Philadelphia, Pa.
Archives of Pediatrics, New York, N. Y.
Cincinnati Lancet-Clinic, Cincinnati, Ohio.
Druggists' Bulletin, Detroit, Mich.
Eclectic Medical Journal, Cincinnati. Ohio.
Homeopathic Journal of Obstetrics, New York, N. Y.
Index Medicus, Washington, D. C.
International Journal of Surgery, New York, N. Y.
Journal of Electro-Therapeutics, New York, N. Y.
Journal of Ophthalmology, Otology and Laryngology, New York, N. Y.
Kansas City Medical Index, Kansas City, Mo.
Mathew's Medical Quarterly, Louisville, Ky.
Medical Age, Detroit, Mich.
Medical Fortnightly, St. Louis, Mo.
Medical Mirror, St. Louis, Mo.
Medical Herald, St. Joseph, Mo.
Medical Sentinal, Portland, Oregon.
Medical Visitor, Chicago, Ill.
National Druggist, St. Louis, Mo.
National Popular Review, Chicago, Ill.
New England Medical Monthly, Danbury, Conn.
North American Practitioner, Chicago, Ill.
Pacific Medical Journal, San Francisco, Cal.
Phil. Index and Review, Kalamazoo, Mich.
Polyclinic, New York, N. Y.
Prescription, The, Danbury, Conn.
Quarterly Atlas of Dermatology, St. Louis, Mo.
Therapeutic Gazette, Philadelphia, Pa.
Times and Register, Philadelphia, Pa.
University Medical Magazine, Philadelphia, Pa.
Virginia Medical Monthly, Richmond, Va.
Western Medical Reporter, Chicago, Ill.
WEEKLY MEDICAL REVIEW, St. Louis, Mo.

It is expected that all reputable journals will be represented at this meeting.

The "Chicago Clinical Review."

A valued addition has recently been made to the *Clinical Review* in the form of a complete index of the current medical literature of the month. Dr. Geo. H. Cleveland, the editor of this journal is to be congratulated upon the able manner in which he conducts the *Clinical Review* and we predict that his efforts will be appreciated by the profession,

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A New Treatment for Asthma.—There is no disease that is more distressing to the sufferer, and to onlookers as well, as asthma, and the person who suffers with it will grasp at every remedy that offers even a chance of relief. This fact makes asthmatics peculiarly the prey of quacks and frauds of every description. The medical profession frankly and fairly tell the patient, "we can alleviate, but curing is another matter," while the quack and charlatan promise to cure —a promise which it is needless to say they never keep. The Cooper Pharmacy Company, of St. Louis, usually address themselves in the matter of remedies compounded by them, solely to the physician.

To prevent the sale of quack remedies, they offer the trade their "Valerianate of Sparteine, with Caffeine (alkaloid) Coca Leaves, etc.," (Van Ness' formula), which they believe to be as nearly a specific, in quickly relieving the accesses of asthma, as anything yet discovered. The Sparteine Valerianate acts directly on the pneumogastric nerve, and thus attacks the actual seat of trouble. The formula, indeed the treatment, is entirely new and so far we have observed very successful.—Extract from editorial column of *National Druggist*, December 1, 1893.

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BOOK REVIEWS

Annual of the Universal Medical Sciences.

A Yearly Report of Progress of General Sanitary Sciences Throughout the World. By Charles E. Sajous, M.D., and Seventy Associate Editors, assisted by over Two Hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo Lithographs, Engravings and Maps. The F. A. Davis Company, Publishers, Philadelphia, New York, Chicago and London. Australian Agency: Melbourn, Victoria.

This valuable work furnishes an excellent record of all that is new in the various branches of medicine. Its object is to bring the general practitioner into direct communication with those who are advancing the science of medicine and this object it serves most admirably. The type is large and easy to read and the different departments are well represented. It is a valuable aid to the busy practitioner who will find in a condensed and comprehensive form the latest views from the press of American and European authors. No physician should be without it.

Books and Pamphlets Received.

An American Text-Book of Gynecology, Medical and Surgical, for Practitioners and Students. By Henry T. Byford, M.D., J. M. Baldy, M.D., Edwin B. Cragin, M.D., J. H. Etheridge, M.D., W. Goodell, M.D., Howard A. Kelly, M.D., Florian King, M.D., E. E. Montgomery, M.D., William R. Pryor, M.D., George M. Tuttle, M.D. Edited by J. M. Baldy, M.D. With 360 Illustrations in text, and 37 colored and half-tone plates. W. B. Saunders, 925 Walnut Street Philadelphia, Publishers. J. H. Chambers & Co., 914 Locust Street, St. Louis. Price: cloth, $6.00; sheep, $7.00, half-Russian, $8.00.

How to Use the Forceps. With an Introductory account of the Female Pelvis and the Mechanism of Delivery. By Henry G. Landis, A.M., M.D. Revised and enlarged by Charles H. Bushong, M.D. Illustrated. E. B. Treat, Publisher, 5 Cooper Union, New York. J. H. Chambers & Co., 914 Locust Street, St. Louis. Price, $1.75.

A Practical Treatise on Nervous Exhaustion (Neurasthenia), Its Symptoms, Nature, Sequences, Treatment. By George M. Beard, A.M. M.D., Edited with Notes and Additions by A. D. Rockwell, A.M. M.D. Third Edition—Enlarged. E. B. Treat, Publisher, 5 Cooper Union, New York. 1894. J. H. Chambers & Co., 914 Locust Street, St. Louis. Price $2.75.

New Truths in Ophthalmology, as developed by G. C. Savage, M.D. Thirty-two Illustrations. Printed at the Publishing House of the M. E. Church, South, Nashville, Tenn. 1893.

CORRESPONDENCE

Iodide of Lime in Croup.

Editor MEDICAL REVIEW.—My attention was called some months ago to an extract from an article written by Dr. Albert G. Beebe, of Chicago, in which he stated that he had used the "iodide of lime" in the treatment of membranous croup for more than twenty years in a large city practice without the loss of a single patient, and that he had come to look upon the disease as one to smile at but not to be afraid of.

For some years I have relied mostly upon the muriate of ammonia, because it is an active resolvent, and after reading Dr. Beebe's article concluded that as the iodide of lime is even a more active resolvent, that it might possess the virtues so far found in no other drug yet used in the treatment of this dreadful enemy of childhood.

I sent to the wholesale house for the drug and in return received a yellowish salt marked iodide of calcium. As the U. S. Dispensatory makes no distinction between the iodide of calcium and the iodide of lime, I laid the remedy aside thinking this the one used by Dr. Beebe. Soon after I was called to see a boy aged eighteen months exhibiting all the symptoms of membranous croup. I used the iodide of calcium and after a hard fight for four or five nights succeeded in saving the little one's life, but his breathing was very noisy and labored, and to relieve the distress I gave him every three hours five drops of the fluid extract of quebracho, a remedy which, no doubt, possesses the peculiar and unique power of enabling the blood corpuscles to assimilate more oxygen from the same quantity of air. It removed his livid appearance and gave him instead a more rosy color, and much relieved his dyspnea. It is a valuable remedy in all disorders of the respiratory apparatus in which the patient suffers from a diminished quantity of air, such as croup, asthma, pneumonia, tuberculosis, etc. Steam was also used and enabled the patient to sleep better.

I now wrote Dr. Beebe regarding his remedy and was informed by him that the iodide of lime, a dark colored drug, and not the iodide of calcium, was used by him. He gave me the name of the manufacturers (Billings, Clapp & Co., Boston, Mass.), and I sent to them fifty cents for which I received, by mail, one ounce of the dark iodide of lime. I have used it in several cases since. All made a rapid and easy recovery and did much better than under the use of the iodide of calcium.

For ten years I have been searching medical literature for something which promised success in the treatment of membranous croup, but until I became informed of the virtues of the iodide of lime have always taken charge of these little patients with a feeling of pity, helplessness and fear. I believe, however, that in this drug we have a remedy capable of saving all or nearly

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all of these cases, and since one never knows when he may be called to treat such a case, I now always keep on hand a supply of the drug, knowing that time will not allow that it be ordered from the manufacturers after the disease has attacked the child.

Halstead, Kans. V. E. LAWRENCE, M.D.,

Lecture by Surgeon General Sternberg.—A course of lectures to be given under the auspices of the Sanitary League of Washington, D. C., was commenced January 8, by Dr. Sternberg, the Surgeon General of the Army (*Journ. of the Am. Med. Asso.*). The subject of the discourse was disease germs, the object of the lecturer being to show to his audience how easy it is to prevent the spread of certain dangerous diseases when they fasten on a household or neighborhood. Photographs of pathogenic micrococci, bacilli and spirilli were thrown on the screen to illustrate his remarks. Moist heat in the form of steam or hot water was represented at the best germ killer or disinfectant. Boiling was a sure germicide; at 212 degrees F. all spores perish. A heat of 140 degrees F., continued for ten minutes suffices to give safety, but it is better to increase the heat and prolong its duration. Milk, water or soup that has recently been boiled is free from infection but if allowed to stand for some time in the vicinity of danger, germs may alight upon it and breed with amazing rapidity. The germs of cholera and fevers multiply wonderfully in milk and soups. Articles of food are often infected through the instrumentality of flies. These alight on contaminated surfaces and their feet become soiled with germs which are afterward transferred to substances prepared for table use. Sunlight is deadly to germs. Those of cholera are unable to resist an exposure of three or four hours to the rays of the sun. Drying, also, is efficient against cholera; but desiccation will not destroy the germs of consumption, diphtheria or typhoid fever, which are capable of living for months in the dried state. Lime wash or common whitewash is valuable as a disinfectant. It destroys the germs in the excretions of cholera patients. A solution of carbolic acid, five parts in a hundred parts of water, is also a good disinfectant for excreta. The products of coal tar are new and valuable agents for the same purpose. Little boxes of chlorid of lime, (bleaching powder), hermetically sealed and quickly used after being opened are suitable as a disinfectant for household use. Six ounces of the powder in a gallon of water makes an excellent disinfectant solution, but it must be used shortly after it is prepared as exposure to the air destroys its efficiency. Burning is the best method of disposing of expectorated matters. The germs of cholera and tybhoid fever in the excreta and of influenza, diphtheria, pneumonia and consumption in the expectoration can be destroyed easily; but as regards the eruptive fevers, the germs of which are not fully identified, the only sure method of dealing with infected matters such as soiled clothing and exfoliations from the surface of the body is to burn them.

ABSTRACTS

SURGERY.

Appendicitis.—Dr. Fred. Byron Robinson in an article published in the *North American Practitioner* says:

1. Males have appendicitis four times as frequent as females.

2. The age of appendicitis is chiefly the same in males and females—say from ten to thirty years.

3. The main cause of appendicitis is the small size of the mouth of the appendix which obstructs the passages of imprisoned objects from the appendicular lumen to the cecal lumen.

4. Many hundred post mortems show appendicular adhesions in from fifteen to twenty per cent.

5. The writer can state from observation that the peritoneum varies very much in its attachments, folds and fossæ in the vicinity of the cecum.

Anatomists have varied in their descriptions of this region for seventy five years. The chief statement which may be made is that the peritoneum always covers the entire cecum, and that the appendix always originally possessed a mesentery. Unequal growth and atrophy of appendix and cecum distorted the original relation of the peritoneal attachments.

6. Microbes play the chief role in appendicitis, multiplying rapidly when the mouth is closed.

7. The result of the closure of the appendicular mouth is irritation. The (glandular) secretions are increased by the irritation of microbes and foreign bodies The circulation is disturbed; the veins and lymphatics become overfilled; edema results. Local or general necrosis (or gangrene) follows and a perforation of the appendix results, which induces either local or general peritonitis. If limited by exudates the peritonitis will be local. But peritonitis and exudates can and are produced by the microbes or their products (ptomaines) penetrating the appendicular wall, leaving no visible perforation.

8. The pain from appendicitis is chiefly caused by appendicular peristalsis and should be termed appendicular colic; or it may arise from appendicular perforation. The sudden cessation of the pain is generally due to the expulsion of the foreign body into the cecal lumen. Adhesions may induce pain.

The pain is left in the right iliac fossa in about one-half of the cases and the other half of the cases feel the pain in the abdominal cavity—not localized. In general most abdominal pain is left near the umbilicus *i. e.*, over the abdominal brain. The pain generally begins snddenly. McBurney's point is useless and untrustworthy. There is, frequently, a referred pain in appendicitis.

9. In (young) women frequent micturition often

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accompanies the progress of appendicitis. The abscess appears to be more liable to move into the pelvis than in man.

10. Bowel obstruction and constipation in appendicitis is reflex—not mechanical.

11. Vomiting is due to reflex irritation carried up the superior mesenteric plexus to the abdominal brain where it is reorganized and emitted to the stomach. Every viscus suffers from the reflex irritation especially those supplied by a large nerve plexus, as (*a*) the heart, (*b*) liver, (*c*) kidney, (*d*) spleen, (*e*) digestive tract (*f*) lungs, and (*g*) genitalia.

12. The tenderness on pressure in the right iliac fossa, or wherever the pathological appendix lies is due to the inflamed parts. Is is not uniform in location.

13. The rise of temperature is due to infection from microbic action and perforation of the appendix, discoverable or nondiscoverable. The invisible perforation of the microbes or their products (ptomaines) will pro duce exudates and adhesions.

14. The perforation of the appendix can take place intraperitoneally or extraperitoneally. Intraperitoneal perforation ends in local or general peritonitis. Extraperitoneal perforation may end in infection of the post cecal areolar tissue, and an abscess on the appen dicular perforation may result in again perforating the cecum. The perforation is liable to occur in the direction of least resistance which is in the appendix where it is not covered by peritoneum, *i. e.*, between its mesenteric folds. This accounts for, first, appendicular perforation; and, second, cecal perforation; for the appendix frequently lies in contact with the cecum just where the rapidly growing cecum stole away the mesentery of the atrophying appendix. When the appendix lay against the cecum the double perforation of ap pendix and cecum occurred. A perforation may heal just as it does in the wall of an ovarian cyst.

15. The perforation of the appendix no doubt infects the tubes and ovaries.

16. Probably ninety-five percent of diseases about the cecal region originate in the appendix.

17. In regard to operation in appendicitis it should be well remembered that a low per cent of mortality does not justify any operation.

18. All cases of acute appendicular perforation with diffuse peritonitis should be operated on, though nearly every case is fatal. Out of over 200 post mortems on dogs killed or dying after abdominal experimental operations I found no dog survive general peritonitis. Fenger operated on ten cases of diffuse peritonitis following appendicular perforation and all died. Many other re port similarly.

19. Localized abscesses in the appendicular region should be operated on.

20. Subjects of severe recurrent attacks should have an operation.

21. My experience with appendicitis in children is that it is very progressive and very fatal, therefore, the writer suggests operative interference as soon as appendicitis is reasonably diagnosed.

22. The cardinal principle in the operation is to manipulate the viscera as little as possible.

23. If one evacuates an abscess in the right iliac fossa, the writer thinks it unwise to spend much time or manipulate much to find the appendix—simply wash out the abscess and drain.

24. The various forms of operative appendicitis gave various mortality. The diffuse peritoneal suppuration is nearly 100 per cent fatal. The recurrent form has some eight per cent mortality; one report of 120 cases of all kinds gives some ten per cent mortality.

25. Treves says eighty per cent in all cases recover spontaneously. Guttman treated medically 100 cases with four per cent of deaths. Talamon says ninety per cent of all cases of appendicitis get well without surgery.

26. Observations and practice seem to teach less surgery on the appendix than a year ago. Judgment is becoming more accurate as to what cases demand operation. Pathology and post-mortems, the last two years, would seem to limit more and more operative cases. Autopsies must tell the tale. The following of conservative but representative men like Treves, of London, Talamon, of Paris, Fenger, of Chicago, Guttman, of Berlin, and others, is increasing; yet reasonable surgery will never lose its place in appendicular disease. Though the appendix is a useless and menacing viscus, yet sweeping removals of organs is a backward step in surgery.

27 The foreign body in the appendix is generally dried feces mixed with calcium salts, and not some solid body. So that as our present knowledge goes, physicians cannot recommend to abstain from swallowing cherry stones, grape seeds, etc.

Rhythmical Traction of the Tongue as a Means of Resuscitating the Asphyxiated.—Laborde (*La Tribune Medicale; Ther. Gaz*) who first called attention to the value of rhythmical traction of the tongue as a means of stimulating respiration, has collected much evidence in regard to the value of this method as applied to cases of threatened death from asphyxia. Among the cases contributed, that of Lenuce is very interesting. The surgeon was performing a tracheotomy on a patient suffering from neoplasm of the larynx. Chloroform was being given; this had been preceded by an injection of morphine. Respiration was entirely suspended; the patient become blue and, indeed; almost black from asphyxia. Altough a canula was placed in the trachea, there was no effort at breathing. Ryhthmical traction of the tongue was at once made, and finally respiration was restored.

Masse states that this method is an excellent adjunct to the other well-known resources in case of accident during anesthesia. By this means he has been able to restore dogs apparently dead from the administration

of chlorform. Sometimes respirations were not renewed until after ten minutes.

Meniere, while operating for caries of the mastoid process, the patient being under the influence of chloroform, perceived that breathing had stopped, and on examination could not detect any motion of the heart. The face was cadaveric in appearance. The child was turned head down, artificial respiration was started at once, and the tongue was seized in a pair of forceps and rhythmical tractions were made upon it. The first respiration was not noted for six minutes. The child recovered.

Laborde holds that in chloroform anesthesia, when death is threatened from respiratory or cardiac syncope, or the two combined, the tongue method is the most powerful and rapid means of resuscitation, aiding not only the freeing of the throat, but actually stimulating respiration. He contributes a case of apparent death from violent shock of an electric current. The strength of the latter was more than two thousand volts. The hand of the patient was burned and the body was black. The tongue was seized with a pair of forceps and rhythmical traction was made upon it for more than an hour, at the end of which time natural respirations were resumed and the patient recovered.

Drainage of the Bladder by Means of an Oblique Fistula After Suprapubic Cystotomy.—Martin (*Centralblatt f. Chirurgie; Ther. Gaz.*) advocates the method of oblique canalization, applied by Witzel, in the operation of gastrostomy, to drainage of the bladder after suprapubic section, and refers to one case contributed by Zweifel, in which a similar operation was performed after opening the peritoneal cavity for the extirpation of a carcinoma growing at the vesical orifice of the urethra. Martin operated on a man aged sixty seven, suffering from retention of urine due to enlarged prostate. For seven years the patient had been compelled to use a catheter five times a day. Finally, he was not able to introduce the instrument, nor was the physician to whom he applied any more successful. The bladder was distended so that it reached as far as the umbilicus. The prostate was markedly enlarged. It was found impossible to introduce an instrument by way of the urethra. The patient was put in the Trendelenberg position, and a three inch incision was made, running down to the symphysis; the bladder was freely exposed; the peritoneal fold was found two inches above the symphysis and was easily pushed still farther upward by blunt dissection. The wound margins were drawn widely apart by means of retractors, and the whole anterior bladder-wall was exposed, so that the following manipulation was easly carried out: A trocar was thrust through the bladder-wall low down behind the symphysis, and a portion of black, blood-stained, offensive urine was withdrawn. The bladder-wall was fixed on each side of the canula by means of clamps; the opening through it was slightly enlarged by means of a bistoury, so that a Nelaton catheter of medium size could be passed through. This was secured to the bladder by means of a catgut suture, and then, by means of a series of sutures running at right angles to the long axis of the catheter, passing in and out of the bladder-wall to one side over the catheter and in and out of the opposite side, a canal was formed at the expense of the bladder-wall. This canal was two inches in length. The sutures were silk, and after they were tied they were re-enforced by a continuous suture.

The wound was packed with iodoform gauze; the end of the catheter was brought out through its upper angle and was secured by means of an adhesive plaster. The healing of the wound was rapid, in spite of a severe venous hemorrhage, which recurred three times in twenty-four hours, but was stopped by means of ice and ergotine. This bleeding apparently came from wounds caused by violent attemps at catheterization. After three days the temperature was normal and the urine became clear and healthy in appearance. The urine escaped by means of a drainage-tube attached to the catheter. This instrument was changed on the twelfth day. On the introduction of a new instrument a very distinct elastic resistance was encountered. This was overcome by gentle perssure, and, the instrument entering, some urine flowed out. This resistance was evidently due to the reflex muscular contracture excited by instrumentation. After the fourth day the dressing was entirely dry. The fifteenth day after operation the patient was allowed to get out of bed. The end of a Nelaton catheter was fastened by means of clamp and no urine flowed by the side of the instrument. The capacity of the bladder rapidly increased, so that in a short time a pint could readily be retained without a drop escaping by the side of the catheter. The patient was perfectly comfortable, and four times a day released the clamp at the end of the catheter and evacuated the contents of his bladder.

The Straight Position in Injuries of the Elbow-Joints.—The results of our present treatment of elbow fracture, in the rectangular position, are far from satisfactory (A. Hanbury Frere M. B., in *Hospital Gazette*). So long as they obtain good movement most surgeons seem to care nothing for deformity. But surely a time has now arrived when we ought to aim at something more than conserving the mobility of the joint only.

We find that attempts have been made from time to time to avoid some of the dangers attending the use of the rectangular position, showing that this method has not always given that satisfaction which would warrant its universal adoption. Thus Hippocrates and Sir A. Cooper were careful to keep the forearm prone. Swinburne introduced a most ingenious method of extension and counter-extension; Bigelow treated all injuries of the elbow, except fracture of the olecranon, "as though the forearm had been dislocated backward;" Watson Cheyne has shown the propriety of operation. Amongst those who have abandoned the rectangular position,

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some favor the fully flexed position, but not only is this method open to the same objections as the rectangular position, but there is further a great interference with the circulation. Others prefer a position between extension and semiflexion, but the success of this method does not appear to have been very great. Lastly, there are now many who believe that the best position in which the arm can be placed in these cases is in extension. So satisfactory has this method proved in the hands of those who have used it that I desire to consider briefly some of the advantages attaching to this plan of treatment, full details of which will be found in the works of Berthomier, Allis, and Lane.

It is generally conceded that the cause of deformity or limitation of movement after elbow fracture is an alteration in the shape or relation of the articular surfaces, or an overgrowth of bone from excessive or ill-formed callus, or ossification of the ligaments or capsule.

Now all these changes are favored by displacement of the fragments. What is wanted, therefore, is a method which will procure and keep up the best possible coaptation of the fragments, and at the same time preserve the normal angularity of the limb.

As Lauenstein has pointed out, it is only in the extended position that we can be sure that the parts are in good position, and directly we bend the arm there may be great displacement or deformity, and we shall not be aware of the fact. What flexion conceals extension reveals. With the arm extended we can run the eye up the limb, and see that the proper relation of the parts is being kept up.

It is but natural, therefore, to retain the limb in that position in which we know that reduction is being kept up. There is no need to bend the arm, and thereby place the limb in such a position that we can only hope that all is well.

By extending the arm we practically eliminate muscular action, so we do away with the lever action that comes into play as soon as the limb is flexed. In the straight arm the structures on the flexor aspect of the joint are stretched to their physiological length. In this position, therefore, we obviate the danger of shortening, and there is less room for the formation of exuberant callus. At the same time, we are less likely to have adhesions or entanglement of the vessels and nerves, and these important structures will not be injured during the performance of passive motion, as they are apt to be when healing has taken place in the flexed position.

In the extended position the ligaments become a valuable aid in steadying the fragments. I may here remark that the straight position is the best for fracture of the condyles of the femur, how much more is it suitable for fracture of the condyles of the humerus where muscular action is not nearly so potent a factor? The extended position is most favorable to immobilization, which is "the most efficient agent we possess against inflammation" (Stimson), and which, at the same time, greatly aids the healing process.

With the arm extended there is no impediment to the circulation either of the blood or lymph, and it is only in this position that massage can be efficiently carried out.

Allis has shown that in the straight position we have much more control over the fragments than when the arm is bent.

In employing the extended position the forearm may be placed in supination or in pronation. Those who adopt the former claim that they are keeping up the normal outward obtuse angle at the elbow, but it is extremely painful to keep the arm supine for any length of time, and in such a position there is a danger of over extension. Moreover, the angle at the elbow is formed by the humerus and ulna; it is still present, therefore, even when the forearm is prone.

Now, as Illingworth has pointed out, with the arm extended and prone, the outward configuration of the limb becomes practically straight, so that, instead of a complicated angular splint, a simple straight one can be applied. Whilst, therefore, we are keeping up the normal relation of bone to bone, we have an arm that is much more easily dealt with than when the forearm is supine, and we avoid the danger of over-extension. With the arm extended and prone, the extensor muscles tend only to move the limb back as a whole, firm, rigid and fixed as though it were composed of one long, straight bone

It has been found that when the limb has been dressed in supination there is a tendency to pronation, which very soon loosens the dressing.

Another point in favor of pronation is the fact that the limb is all ready to be bent to a right angle without any rotation of the humerus; there will thus be less strain on the freshly united structures when the arm is moved for the first time, should we then desire to place the arm in a sling.

Lastly, as Morris says, "pronation is a position of the greatest elegance and grace, and one most agreeable to the eye as well as to the feelings."

Any tendency to swelling of the hand may be avoided by careful bandaging, and such a position is not more uncomfortable than any other in such an injury.

It is a great point to dress the limb in that position in which the fracture is best set, for in this way we greatly hasten the healing process, and thus dressings can sooner be dispensed with.

I believe that an exaggerated fear of anchylosis, by perpetuating the use of the rectangular position, has been the chief impediment to the adoption of the straight position. If one position more than another is favorable to anchylosis it is the rectangular position. If the injury be so severe as to render anchylosis almost inevitable, an attempt should be made to save the joint by operation. But such cases are not of sufficient frequency to make this an argument in favor of the universal use of the bent position. We know that fracture of the elbow is often overlooked, and

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fracture of the olecrannon has been put up at a right angle with disastrous results. It is, therefore, as a routine practice that the straight position especially commends itself. It has advantages possessed by no other method, and were the extended position to be come the rule instead of the exception, it would be the means of preventing much pain to the patient, and the saving of much time, trouble, and anxiety to the general practitioner.

Suture of the Nerves.—The following observations are based upon a study of 11 cases operated upon at the Clinic of Tubingen, during the period of 1882–1891, which were kept under long observation (Gleiss in *Beitr. z Klin. Chirurg.; Internat. Journ. of Surgery*). Among these, 13 nerve sutures were performed, for in two cases both the median and ulnar nerve had been divided and were simultaneously sutured. Altogether, the median nerve was sutured five times, the ulnar three, the radial four times, and once the sciatic and external popliteal. In five instances the suture was primary, and union of the cut nerve was resorted to at the end of several hours to a week after the injury, in eight it was secondary. There seemed, however no difference between primary and secondary suture as regards the time required to effect a cure, the period of functional restoration. In both procedures the method of Brun's was followed, modified in some of the details: Two points of direct suture, one or two points of indirect suture (through the neurilemma), always of catgut. In all the cases of primary suture the surface of section was sufficient clean as to enable the operator to dispense with freshening. In the others it was necessary to freshen the ends of the nerves, and often to excise the intervening cicatricial tissue. In one case in which an actual fibrous cord existed, the cord and the ends of the nerve were split lengthwise, and the two ends thus freed were united to each other in a trasverse line. Several times the freshening and reunion were practised according to the following slightly modified procedure. The proximal end which was enlarged and bulbous was split and in the fork thus prepared the peripheral extremity which had been freed and thinned to a point was introduced. Another procedure was employed in a case of old wound of the ulnar nerve, where the interval between the fragments amounted to 10 centimetres. A flap was cut from the upper end of the nerve, drawn down and sutured to the lower end which had been previous ly freshened. The result obtained in this case, however, was unsatisfactory.

Aside from this negative result, the remaining twelve nerve sutures were followed by recovery. In three cases the cure was incomplete; the movement of opposition of the thumb being impaired in two wounds of the median nerve. Functional restoration was only partial in the third case eight months after intervention, (secondary suture of the radial nerve); in the other cases the cure was complete. By the term complete cure should be understood especially the return of voluntary movements and electrical motility. Restoration of sensibility should not serve as a criterion of cure. It happens not infrequently that sensibility remains intact or nearly so after section of a nerve. Besides it must be remembered that after suture voluntary motility appears first, and sometimes long before electrical motility. In Gleiss' first patient (wound of the median and ulnar nerves), the motor functions were completely restored fourteen months after suture, although the electrical reactions were still impaired.

It is therefore necessary to wait a long time for the complete restoration of nerve functions, and as has already been said, this applies both to primary and secondary suture. The period of time required to effect a cure is extremely variable. The first signs of re establishment of the motor functions appear in general in the course of the second or third month, this period corresponding to the three months which it is usually thought are required for regeneration of the peripheral end of the nerve. But this does not imply perfect functional capacity, which can not be expected under the lapse of a year or more. Gleiss was able to keep the cases under observation and found that the time required to produce a cure was variable, from eight months to six years and one-half.

Despite the long duration of the healing process, however, the final results were excellent, and they warrant the conclusion that nerve suture, whether primary, secondary, or even tertiary, is an admirable procedure. Tertiary suture was practiced in two cases where the signs of reunion of the nerve were slow in manifesting themselves, and no trace of functional restoration had occurred at the end of five and eleven months respectively. After laying bare the sutured nerves, there was found in one case a neuroma occupying the point of union, which was excised; in the other the nerve which had united was freed from a mass of adhesions. Gleiss concludes that if at the end of five to six months no improvement manifests itself we should not hesitate to lay bare the nerve and seek for mechanical causes which have prevented a proper reunion, such as neuromata, adhesions, etc. To prevent abhesions and the constriction which they exert upon the sutured ends, Bruns ensheathes the latter in a tube of decalcified bone, which acts as an isolating envelope, and is absorbed very slowly. In a case still too recent to figure in Gleiss' statistics, where there was a loss of continuity of the raidial nerve, due to a fracture of the humerus, suture was resorted to, but as no improvement was noted at the end of four or five months the nerve was laid bare. It was found enclosed and compressed by a mass of cicatricial tissue, and after being disengaged was surrounded by a cutaneous graft after the method of Thiersch. The operation is of too recent date to permit us to judge of the result.

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OBSTETRICS AND GYNECOLOGY.

Accidental Perforation of the Uterus; Celiotomy; Recovery.—G. W Bratenahl (New York *Polyclinic.*) This case illustrates two points of great interest, first the danger of perforating a thin, flaccid uterine wall, and, second, the perfect success of an immediate celiotomy for abdominal hemorrhage under the most adverse conditions. The doctor had made the diagnosis of a retained dead fetus of about three months, and strongly recommended the patient to enter a hospital for its removal. This she positively refused to do, and begged that the operation might be performed at her home. Accordingly, after ordinary preparatory measures had been taken, she was anesthetized and placed in the lithotomy position on a kitchen table. There were no conveniences, and the sanitary surroundings were not good, but as thorough aseptic precautions as possible were taken. The cervix was drawn down with a pair of bullets forceps, and swabbed out with 1 1000 bichloride solution. It was found necessary to dilate for the passage of the curette-forceps, and a pair of Wylie's steel dilators was introduced, and the os gently dilated to the extent of about three quarters of an inch. A pair of blunt curette forceps easily removed the macerated fetus and degenerated placental tissue by piece-meal. Great care was exercised owing to the exceeding thinness and flaccidity of the uterine walls, as felt through the abdomen. In the proceeding, the forceps grasped, what at first appeared to be adherent membranes, but which on being drawn down to the os, proved to be a loop of intestines. The wall of the uterus had been perforated, and a protion of gut had protruded into the uterine cavity. It was the work of a moment to push this gut back into the abdominal cavity with the finger and to pack the uterus with iodoform gauze.

Ether was discontinued at once, and the patient put to bed. Her pulse at this time was good, but owing to the probability of hemorrhage into the abdominal cavity, and the possibility of a knuckle of gut still being caught in the uterine tear, an immediate celiotomy was decided upon, consultation having been held with Dr Jarman who was called in.

Instruments were quickly produced, and boiled, and a little over one hour from the time of the accident, the patient was again placed on the table and anesthetized. The abdomen was quickly opened and found to be filled with blood, at least a quart being removed as rapidly as possible by the hands and flat sponges. The uterus was brought into the wound and the perforation was found in the postorior and right side, midway between the cervix and fundus. It was one inch and a half in length, and extended vertically, the edges being jagged. The whole uterine body was softened and flaccid, and from its yellowish color seemed to have undergone fatty degeneration. The cause of the excessive hemorrhage was found in a spouting artery in one side of the rent. This was secured with a pair of artery forceps. The gauze within the uterus was next removed, and its cavity theroughly irrigated with boiled water and weak bichloride solution through the abdominal opening.

Deep silk sutures and continuous superficial Lembert sutures of fine black silk were passed and completely arrested the hemorrhage in closing the uterine wound. The knuckle of gut which had been caught was not found. The peritoneal coat had been abraded by the curette forceps in two placed. This lesion was repaired with twenty-two Lembert sutures. Finally the abdomen was irrigated with two gallons of boiled water and drainage tube inserted. The wound was closed with deep silver wire sutures, passing through all the layers, and superficial silkworm gut sutures. Iodoform and the usual dressing were applied, and the patient placed in bed, having been under ether the second time about forty minutes.

The patient made a complete recovery, and was enabled to resume her household duties in three weeks.

Such an accident as this, although rare, is liable to happen at any time under similar circumstances. The frequent impregnations and abortions which the woman had experienced, resulted in a conditions of subinvolution, which prevented the expulsion of the three months' fetus when it died. The long retention of the dead fetus caused a thinning of the uterine wall and an increase of the fatty degeneration which is normal during evolution.

Hickter reports one case of perforation of the pregnant uters at the foruth month, by a widwife, during an abortion. Celiotomy was not performed and the patient died in seventeen days. Dicky reports another case of ruption at the third month, in which no operation was performed and the patient died. The rupture was discovered at the autopsy and the same condition of fatty degeneration of the uterus was noticed as in the author's case.

The author bases the success of his case upon the short time elapsing between the accident and the celiotomy, the care with which the tear was reached and sutured, and upon the thorough aseptic precautions throughout the operation. The mortality following celiotomy for ruptured uterus is very large, only eight successful cases having been reported up to the present time.

Conservative Surgery of the Ovaries; Resection; Ignipuncture.—Puzzi (*Sem. Med.; Am. Med Surg. Bull.*). In the first place, it is important to define precisely within what limits one may apply the rules of conservative surgery in operations on the uterine appendages. He does not believe in the efficacy of any operation for the purpose of restoring the physiological functions of a diseased fallopian tube, as he considers that the moment the tube becomes extensively inflamed, it is no longer capable of discharging its functions normally. In consequence, he does not include partial resection of the fallopian tubes in the conservative surgery of the uterine appendages. Operations

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which fall under this head can only be performed with benefit, in his opinion, when the tube is sound and potent throughout its whole length. In other words, partial operations are only justifiable in cases of disease of the ovaries. He does not insist upon the fact that the presence of a small portion of ovarian tissue is sufficient to insure the occurrence of menstruation, and, consequently, makes conception possible, for this has been proven by numerous observations.

It may be laid down as a general rule that whenever the ovary is alone affected, the tube still sound, one should endeavor, as far as possible, to retain a portion of the organ, for the latter should only be removed in its entirety when no other procedure is likely to be attended with success. The most favorable cases for operation are those which are most compatible with the preservation of the functions of the unaffected part of the organ are cases of solitary ovarian cyst situated toward one or the other extremity of the gland, dermoid cyst, proliferous cyst (early stages), large follicular cyst, and cyst of the corpus luteum.

Under these circumstances, the operator has no choice of the procedure he should adopt; he must proceed as follows: The first step in the operation is to make sure the fallopian tube is patent by introducing a probe through the fimbriated opening down to the uterine end of the tube. Then, while the ovary is held fast by an assistant, the surgeon removes the diseased portion of the organ by means of a wedge-shaped incision. The edges of the wound are brought together with catgut sutures, thus securing perfect apposition of the cut surface, and, at the same time, arresting hemorrhage.

The same methods are applicable in cases of multiple cystic degeneration of the ovary when a portion of the organ is still intact. In such cases the part next the hilum usually remains unaffected. The incision is carried round that part so as to leave the base of the organ untouched, and the lips of the wound are united with catgut. In cases of this kind the fimbriated extremities should be stitched to the ovarian stump to prevent the tube hanging loose in the peritioneal cavity.

Ignipuncture may be employed instead of partial incision. In cases of multiple lesions of the ovary in the form of small scattered cysts and of diffuse oophoritis it is expedient to open these cysts with the point of the thermo cautery, the surgeon being guided by the sense of sight and touch. The objection may be raised to this method that it may give rise to the formation of cicatricial tissue on the surface or even in the substances of the organ. The condition of sclerosis would be induced in such a case rather than cured. This would certainly be the case if cauterization was followed by suppuration and healing by granulations, but here the process is a very different one. Inside the peritoneal cavity there is perfect asepsis; the slough is gradually absorbed with the formation of granulation tissue. The results of clinical observation even tends to show that the irritation set up by the cautery in the sclerosed ovarion stroma promotes its absorption.

It may also be objected that ignipuncture may give rise to cystic degeneration of the ovary, but this is not proven. It is conceivable that the application of the cautery to an organ supplied with a large number of glands in close proximity to one another, like the cervix uteri for example, may cause occlusion orifices of some of the ducts, and thus give rise to the formation of cysts, but in the ovary we are dealing with closed follicles, and there is nothing to interfere with the free development of such of these as have not been destroyed by the cautery. Dr. Puzzi has obtained several cures by this method, while the reproductive powers of the patients are, to some extent, retained, and time will show whether the cure is likely to be permanent or not.

MEDICINE.

Color-Hearing.—In the *Gazette hebdomadaire de medecine et de chirurgie;* N. Y. *Med. Journ.*, Mlle. N. Astier gives the following account of her own case:

"I must have been seven or eight years old when I began to notice and to signify to others the connection that for me existed between certain colors and certain sounds of letters. In the books of my childhood every letter *o* was red and every *i* was blue; these color effects resulted in inducing the other members of the family to perceive the colors which I saw at first, whether by looking at the printed letter or on hearing the corresponding sound. There were only three letters that I saw distinctly: the red *o*, brilliant and luminous as a fine wild poppy; the *i* of a dull indigo blue, and the black *u*. Other vowels and the consonants had no special colors; they borrowed the tint of the nearest colored vowel. Words that contained both *o* and *i* appeared violet; this color, which I could not tolerate, brought to my mind certain odious names, among others my own given name, which I could not hear without experiencing the same sort of pain as is produced by hearing a discord. I had a very disagreeable feeling on looking at anything blue or at the letter *i*, and at the age of eight or nine years I refused to write this letter in the names of those I loved, but I added it to the names of those I disliked. When I read, I saw the color on the book, very vivid on the vowel and radiating all around the word; when I listened to the work, the tint floated before my eyes, without definite form, comparable to a uniform and evanescent phosphene. Figures did not seem to me to be colored, except seven and eight, the former being agreeable and red like *o*, and the latter disagreeable and blue. Colors were associated also with musical sounds and with noises; the full, rich tones of the organ, those of the violoncello, and those of the voice in the medium register were red, brilliant, and warm; grinding sounds, the harsh sounds of the voice, those of the clarinet, and those of the violin were blue; the tint always depended on the qual-

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ity of the sound, not on the note, and its intensity varied with the instrument. The color sensation evoked by an orchestra depended also upon the quality of the combination of sounds. The impressions caused by seeing color and by hearing sound were of the same nature; the one aroused the other. The scraping of the bow on the finest string of the violin caused a blue spot to appear before my eyes; the sight of this detested blue made me hear sharp sounds or the letter *i*. I extended these associations to my sentiments of affection; certain persons had a halo of red or blue according as I liked or disliked them. These sensations were extremely intense from the age of nine of that of fourteen. I was then in very bad health and excessively nervous. As my health became re-established I paid a good deal less attention to these phenomena of color-hearing and when I took a new survey of myself, some years ago, I found that these vowels, read or heard, no longer gave me the sensation of color. One remembrance remains very clear with me; when I hear certain letters or certain sounds, I sometimes think of the colors formerly called up by them, and can occasionally cause a feeble image of them to reappear, but the vision has not been produced spontaneously for a long time now. I never knew any member of any family who was affected with color hearing."

MEDICAL SOCIETIES

IN MEMORIAM.

The St. Louis Medical Society has learned with profound regret of the sudden death of Dr. William Dickinson, late an honored member, and in 1882 president of this society. This event occurred in California where he had recently gone to reside with his only daughter.—A little more than a month ago Dr. Dickinson, apparently in perfect health, left us for his future western home. Tidings of his safe arrival were received, only to be followed in so short a time, by the sad announcement of his death.

The members of this Society desire to record their high appreciation of his irreproachable character as a man, and his honorable career as a physician.

Dr. Dickenson was a man of far more than ordinary literary culture and attainments; and was possessed of a disposition of rare amiability and gentleness, coupled with a force of character, which, while it was not by any means self-asserting, was yet such as ever to command respect and admiration.

A native of New England, he received his literary education and training at Darthmouth College New Hampshire. Having a taste for letters, his first intention after graduation was to devote his life to the important work of teaching, hence we find him soon there filling the distinguished position of President of the University of Mississippi located at Oxford in that state. Here, however he only remained a short time—two or three years, when determining to make medicine his life work, he entered the Medical department of Harvard University as a student—from which instution he secured his degree of Doctor of Medicine.

After graduating in medicine, he visited Europe, spending some time in Paris and Berlin. In the latter city—designing to make opthalmic surgery his specialty—he gave close attention to the clinics of Virchow, and especially that of Graefe.

In 1857 he came to St. Louis where he commenced the practice of his profession.

During our late Civil War—having obtained from the Government the position of Contract Surgeon, he rendered most valuable, and laborious service in the various Military Hospitals of the city—as well as doing occasional service in the field. He had charge of the Good Samaritan Hospital on Jefferson Avenue and O'Fallon Street, which institution the Government took possession of, and used for military purposes. He found it meagerly supplied with the necessary comforts, and appliances of a modern hospital, but by his industry and energy he soon succeeded in placing it in a sound and satisfactory condition.

After the war, Dr. Dickinson resumed his practice as an oculist, in which he continued up to the time of his departure for California—filling during the last year of his stay the Chair of Ophthalmology in the Barnes' Medical College of this city.

As a member of this Society, Dr. Dickinson was ever faithful in his attendance on its meetings, and scrupulously faithful in the discharge of all the duties assigned to him. The papers which he read, and the cases reported by him bore the marks of scholarly attainments, while his quiet, unostentatious, gentle demeanor won for him the respect of all who knew him. Of him it may be truly said, that he was a high type of the Christian gentleman and physician.

Such is a brief and imperfect outline of the career of the brother whose death we deplore, and whose memory we honor.

Resolved, That a copy of this minute be spread on a memorial page of the records of the Society, that it be published in the medical journals of this city, and a copy properly authenticated be sent to the surviving daughter of the deceased.

W. M. McPheeters,
S. Pollak,
J. S. B. Alleyne,
} Committee.

International Sanitary Congress.—The President appointed Edward O. Shakespeare of Philadelphia, Stephen Smith of New York, and Preston H. Bailhache, M. H. S., as delegates to represent the United States at the International Sanitary Congress, which met in Paris January 24.

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NOTES AND ITEMS

The Congress of American Physicians and Surgeons.—The specialists constituting the membership of the Congress of American Physicians and Surgeons, will meet in Washington, May 29 The sessions conclude June 1. Sessions of the Congress will be held in Metzerott's Hall, while the societies will meet in halls and rooms which will be provided.

The principal social affair of the Congress will be a dinner to be given at the Arlington on the evening of May 30. There will be 500 covers laid. This will take the place of the dinners which the individual societies have been accustomed to give.

A number of foreign physicians and the presidents of all the State medical societies have been invited to Washington as the guests of the Congress, and many of them have already signified their intention of being present.

The opening session of the Congress will take place on the afternoon of Tuesday, May 29, when there will be a discussion by the Anatomical Society of a paper on "Morphology as a Factor in the Study of Disease," by Dr. Harrison Allen, of Philadelphia.

The next session, on the afternoon of Wednesday, will be devoted to the Climatological Association, and papers will be read on "Bacteriology," by D. Frank Abbott of New York, and "Diseases Produced by Sewer Gas," by Dr. A Jacobi, of New York. From 3:30 to 5 o'clock the Dermatological Association will discuss "The Distribution and Control of Leprosy in the United States." Addresses will be made on "Distribution," by Dr. J. N. Hyde, of Chicago; on "Diagnostic Features," by Dr. P. A. Morrow, of New York, and on "Prophylaxis and Treatment," by J. C. White, of Boston. This discussion will be participated in by Drs. William A. Hardaway, of St. Louis, and James E. Graham, of Toronto, Canada; G. H. Fox, of New York, and Joseph D. Bryant, of New York.

On Thursday afternoon the Genito Urinary Association will listen to a paper on "Nephritis in Its Surgical Aspect," by Dr. E. L. Keyes, of New York, which will be discussed by Drs. George Chismore, of San Francisco, L. B. Bangs, of New York, Francis S. Watson, of Boston and W. N. Wishard of Indianapolis. From 3:30 to 5 o'clock the Gynecological Association will hear Dr. Goodell, of Philadelphia discuss the paper on "The Conservative Surgery of the Female Pelvic Organs," by Dr. W. M. Polk, of New York. The evening will be devoted to addresses by the President and the chairman of the local committee on arrangements, and a reception by President Cleveland.

The Congress will conclude its sessions on Friday, June 1. The early portion of the afternoon will be occupied by the Laryngological Association, and "Intranasal Surgery" will be discussed by Drs. J. Solis-Cohen, of Philadelphia, F. J. Knight, of Boston, George H. Lefferts and F. H. Bosworth, of New York, W. C. Glasgow and E. F. Ingals. The Congress will conclude with a discussion by the Neurological Association on "The Influence of Infectious Processes on the Nervous System," which will be participated in by Drs. J. J. Putnam, of Boston, E. C. Seguin, of New York and Charles K Mills and F. X Dercum, of Philadelphia.

To Abolish the Office of Coroner.—The following is an abstract of recommendations contained in the memorial of the select committee of the Medico-Legal Society of New York, addressed to the Legislature of the State (*Med. Rec.*): Your memorialists after duly considering the premises unanimously recommend to your honorable body: That you amend the existing statutes, regulating the powers, duties, and compensation of coroners. (*a*) By creating a new officer to be styled "Medical Examiner," as in Massachusetts and Connecticut, or "County Physician," as in New Jersey, who shall be authorized to condust inquests or examinations in all cases where death has occurred by violence or there is a reason to suspect that the same is due to other than natural causes, having charge of all autopsies and all questions on the medical side of the inquiry, without a jury before a competent court, or before the coroner as a judicial officer, if retained after the plan adopted in Connecticut. (*b*) That said medical examiner be appointed by the county judges of each county except Few York, and by the Chief Justice of the Court of Common Pleas in that county, and only physicians skilled in their profession, of at least five years' practice, to be eligible to such appointment, so far as possible without reference to partisan political considerations, (*c*)That only persons learned in the law shall be eligible to the office of coroner and that if the injuiry is conducted before the coroner, he shallhave charge judicially of all legal questions, and that the hearing,inquest, and proceedings shall be the same as if before the Police Magistrate in the City of New York or other cities over 100,00 inhabitants, and before justices of the peace in all counties of the State except New York and Kings Counties.

CLARK BELL, Chairman, THEODORE A. TYNDALE,
CHARLES G. GARRISON, WYATT JOHNSON, M.D..
ABRAM H. BAILEY, H. W. MITCHELL, M.D.,
MORITZ ELLINGER.

Dated January 10, 1894.

The Eleventh International Medical Congress.—The following important notice has been issued by Charles A. L. Reed, M.D. Member of the American Committee, 487 West Sixth Street, Cincinnati, O.

Gentlemen who are contemplating attending the Eleventh International Medical Congress, which meets at Rome, March 29, to April 5, will not be able to secure the reduced rates offered by steamship lines and European railroads unless provided with the following official documents:

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1. General certificate securing reduction over the North German Lloyd Steamship line from New York and return, and over the railroads of Italy, Russia, France, Spain, Portugal, Belgium and England, good for two months (March 1, to April 30,) in Europe.

2. A Lettre d'Invitation required only to secure reductions on the French railways.

3. A railway pass (Carta di reconoscimento) consisting of three coupons required for the Italian railways.

These documents with full instructions relative to steamship and railroad rates, itinerary of various journeys in Europe, tariff regulations and concessions, etc, will be furnished on application to the above.

The Washington State Board of Medical Examiners held the regular semi-annual meeting in Seattle on January 2, at which time twelve of the twenty-three applicants who appeared for examination were rejected. The Board has revoked the granting of temporary permits to practice until the regular dates for the examinations.

National Dispensatory.—A new edition of the National Dispensatory by Lea Brothers & Co., is announced. It will include all the changes made necessary by the new Pharmacopeia. Professor Charles Caspari of Baltimore, succeeds the late Professor Maisch in the section of the work heretofore prepared by that *savant*.

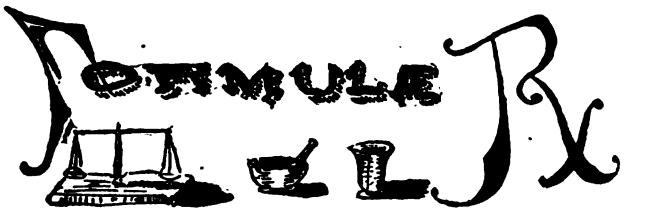
Department of Public Health.—The Ramsay County (St. Paul) Medical Society at their monthly meeting held January 7 recommended the establishment of a Department of Public Health. They urge the bringing of that department on a footing with other Departments, with a Secretary at its head who shall be a member of the President's Cabinet.

Dr. Paul Paquin.—Accurate microscopical, chemical and bacteriological analyses made promptly for physicians. Investigations limited to sputum, urine, and stomach contents for the diagnosis of the disease of the lungs, kidneys and stomach. Sterilized labeled jars and vials, and printed directions as to the best modes of gathering and submitting specimens, furnished on demand. Specimens improperly gathered are subject to contamination and will not always be accepted for analysis. They lead to long and unreliable labors.

Complete, reliable, useful reports (that patients appreciate and value) made neatly to the doctor on printed forms.

Fees $5.00, and upward. Physicians honoring Dr. Paquin in submitting specimens, held responsible for remittance, unless otherwise arranged.

Laboratory and uptown office, 3603 Lindell Boulevard, from 9:30 to 11:30 A.M., and from 3:30 to 5:30 P.M. Down town, Room 361, Union Trust Building, 1:30 to 3:30 P.M.



Pyrosis.

℞ Sodii bica;bonat., - - - - - - - - ʒj.
Carbonis pulv., - - - - - - - - gr.xxiv.
Bismuth. subnitric, - - - - - - - - ʒj.
Pulv. aromatic.. - - - - - - - - gr.xij.
M. Ft. pulv. Divide in dos. xij.
Sig. One powder one hour before meals.

Leucorrhea.—Metritis.

℞ Suppositorii Cocain. Comp. (S. B. M. Co.), - No. 12.
Sig. One suppository preceded by thorough hot water douching to be used per vaginam, each night on retiring.

℞ Dioviburnia, - - - - - - - one bottle.
Sig. Dessertspoonful in hot water three times a day.

Bronchitis.

℞ Apomorphin. muriat., - - - - - - gr.j.
Morph. muriat., - - - - - - - - gr.ss.
Potass. bromidi, - - - - - - - - ʒiij.
Aq. fenicul, - - - - - - - - fʒiij.
Syr. senegæ, - - - - - - - - fʒj.
M.
Sig. Tablespoonful three times a day.

Gastro-Intestinal Catarrh with Migraine.

℞ Granania, - - - - - - - - - - ʒj.
Bismuth. subnitric., - - - - - - - - ʒj.
Pulv. opii, - - - - - - - - - - gr.vj.
Sacch alb.. - - - - - - - - - - ʒss.
M. F. pulv. Divide in dos. No. xij.
Sig. One powder three to four times a day.

Atonic Dyspepsia.

℞ Tinct. capsici, - - - - - - - - mxvj.
Tinct. nuc. vomic., - - - - - - - - fʒij.
Tinct. gentian. comp., - - - - - fʒjss.
Syr. Hypophosph. Comp. (McArthur). q. s. ad fʒjss.
M.
Sig. One dessertspoonful in water after each meal.

Spasmodic Croup.

℞ Tartar. emetic., - - - - - - - - gr.j.
Vin. ipecac, - - - - - - - - - ʒj.
Syr. scillæ,
Syr. senegæ, - - - - - - aa fʒij.
M.
Sig. Teaspoonful every ten minutes to produce vomiting.

Otalgia.

℞ Neurosine,
Syr. Simpl., - - - - - - - - aa fʒj.
M.
Sig. Teaspoonful every one to two hours.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Mans' Stomach.—Its Maladies, Their Complications and Consequences.

BY PAUL PAQUIN, M D.

Read before the St. Louis, Medical Society, February 17, 1894.

The stomach is to the body what the boiler is to the engine. With its accessories and certain immediate portions of the intestines, its functions is to furnish fuel to the machine. Upon its normal condition and functions then, depends good health, in a very large measure. Indeed, almost any special organ of the body, except the brain, may be more or less seriously affected with less general constitutional disturbances than from a diseased stomach and lower alimentary canal, and few people can remain normal and in healthy spirits when this organ is organically or functionally altered. Furthermore, no one can feel perfectly happy and free from the strange changes of characteristics, whose stomach and other digestive organs are impaired to even a limited degree, for there result too many complications and distinct abnormalities that effect the nervous system, And yet there is no morbid condition more common than stomach and intestinal disturbances of various characters; no affection more common than impaired digestion; no chronic affliction more general, throughout the civilized world, more universally existent than dyspepsia under its various correct or erroneous classifications. In the face of this condition of affairs however—a condition largely produced by civilization, which has developed the natural necessity for drink and food to an art, gastronomy, and gradually made man a gourmand—no class of disease receives as little careful and correct attention at the hands of the physicians. As it was fifty years ago, so it is to-day concerning most of the chronic and some of the acute gastro-intestinal disorders; a diagnosis is made from historical points drawn from or volunteered by the patient, and medication follows, usually with poor or indifferent results, particularly if the malady be a chronic or obscure one. We have at hand to-day, means of diagnosis and treatment so much more accurate and successful, that it seems a grave error and a serious wrong that there is so little conscientious attention paid to them. To-day, chemical, bacteriological and microscopical analyses of the secretions and contents, anb lesions of the stomach and bowels may be made with as much accuracy and with as good and even better results in therapeutics, as of the secretions of the kidneys in maladies of these organs. We may now demonstrate positively, the dilations of the stomach, its sagging down below its normal place, and some of the gross abnormalities, by intra-stomachal electric illuminations, as I propose to show you.

Indeed, complete analyses of the digestive organs as above, in addition to thorough analyses of the urinary secretions, put us in possession of most valuable information in the diagnosis of not only uncomplicated gastro intestinal diseases, but often place before our astonished eyes, important scientific facts, such as chemical formulæ and microscopic pictures, which explain to us, more or less positively, numerous symptoms of the much discussed, comprehensive, abnormal condition of man, known as Neurasthenia. It often clears the clouds which mask the cause of indefinite and definite cerebral, manifestations, as dizziness, insomnia, fear, moroseness, "the blues," irritability, the various mixed symptoms of the drinker, the high liver, the poor sleeper, the willing owl who spends his nights at his desk, (as the newspaper man), or he who worships at the shrine of Venus till early morn, or he who basks in the intoxicants of the nectar, or he who, ruled by duty, is up day and night when called, as the family physician, the nurse, the anxious mother, watching over the sick. It is a fact that several conditions of separate organs, for instance the kidneys and nervous centers, which are classed as primary and pathological entities from the onset, are often nothing more, at that period at least, than the results of impaired digestion in one or more ways. For example, albumen is found in the urine frequently, in the alcoholic man or woman, and there may be no Bright's disease. It is then a curable condition, at least at first, and sometimes for many years. Again, sugar may be found in the urine of wine drinkers and others, under special diet or certain forms of mal-digestion, mal-assimilation and disassimilation, without there being diabetes. Again, a patient may present a perfect picture of neurasthenia, as some emi-

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nent neurologists paint it, and which they would have us consider as a definite pathological entity at all times and under any and all circumstances, which is merely the manifestation of the irritation of the nerve centers, poisoned by different or various poisonous products of stomachal and intestinal fermentation and decomposition, which always takes place to a greater or lesser degree when digestion is imperfect, no matter from what cause. In addition to this we find, very frequently too, by good analyses the retention of the leucomaines, which are always manufactured by every living cell of the body, throughout the living tissues and which, if not expelled, produce auto-intoxication. But man seems to be bent on continung his course and keep on destroying his stomach, dilating it, producing ulcers, inflaming the mucous surfaces, creating catarrhal conditions, that may extend from the mouth to the appendix vermiform or lower. The children are raised in glass cases, by the furnace, as hot-house plants, not allowed to breathe the cool or cold of day or evening, as if it were poisonous and unnatural. And their digestion becomes impaired. The business and professional man who works twelve hours a day, runs to his meals, bolts his food and runs back to business again, worries and frets every spare moment, even at night, ruins his health in two ways, which join issues and eventually constitute a tremendous drag on the constitution. Such a man tires his nerves, overworks and clogs the stomach and alimentary canal, and by this joint embargo on Nature's laws and forces, wrecks his constitution from a nervous and physical standpoint. The woman who is burdened with the cares and anxieties of home, the solicitude of motherhood and wife, the inexorable demands of society, the numerous indefinable but very positive psychic conditions of her emotional and tender nature, is subject to the same unfortunate influences, and oftener than the male even, becomes a life-long invalid—(the majority of such cases are remediable by the new methods.) All these may eventually go to a doctor, but they usually want quick medication and miraculous cures, and our methods have been such as to encourage humanity in the belief that medicines will accomplish miracles. They have no time to get well. It is only when prostrated that they submit to the inevitable, protracted, scientific, physiological treatment instead of polypharmacy. To expect to be cured in a few days or a few weeks by medication based only on the history and the objective symptoms is irrational. Many of us act too freely on these slim grounds, and some purposely encourage this sort of indifferent untenable but profitable practice, by reflections on the more scientific and accurate methods which they will not investigate. Ridiculous as it is, I have even heard a medical professor decry the use of the inoffensive stomach tube, which is more harmless than the catheter and looks formidable only because the patient may object to its use for fear of nausea.

Now, I respectfully submit to this progressive body, that, as a rule, we do not pay sufficient attention to chronic diseases from scientific grounds. So far as the diseases of the alimentary canal are concerned, it is our duty to pay more attention to the German and French accurate methods of diagnosis and treatment. Lavage may be practiced now, with absolute safety throughout the alimentary canal. Water has been forced, without accident, from the rectum to the stomach, washing and disinfecting the whole tract, while colon irrigation, carefully made, is perfectly safe. How useful these means of treatment are in chronic dyspepsia, typhoid fever, etc, no one knows who has not tried them. Its possibilities in Asiatic cholera, are very comprehensive. Electricity may be applied in the stomach and throughout the intestinal tube, by using a pole at each extremity. Disinfection acidification, alkalization, astringency, may be produced at will and harmlessly in the digestive tract, when a correct analysis is made as a base for the treatment. Massage and Swedish movement may be used to advantage. After such analyses medication will be more rational, more logical, more useful, and more satisfactory for the patient and the doctor. Many of these treatments used successfully at Sanitariums, may be used as successfully at home. Finally, a correct diet may then, and only then be prescribed. A diet prescription, unless based on such analytical knowledge of a given case, is often a mere guess and may do harm in most cases of digestive disturbance. I recall at this moment, the diet prescription of a noted neurologist, and another of a competent general prkctitioner, whose patients were in my charge at a Sanitarium. The trouble in both cases was gastro-neurasthenia. Hydrochloric acid and pepsin were deficient. The patient, therefore, could not digest albumen properly. The prescription diet of the neurologist was boiled beef and cabbage, and the other, chiefly corned beef and cabbage, to which respective regime they each held with religious tenacity. When you consider that there was malnutrition and that cabbage contains no hydro-carbonates, only 2% of nitrogenous matter and 91% of water, and that the gastric juice could not safely digest albumen, you will be amazed that such a diet was ordered. Was not this guilty guess work? No analysis was made; it was mere empiricism.

Now gentlemen, you will bear with me in saying very humbly, that my conclusions are based on opportunities at foreign institutiods for chronic invalids and at sanitariums, for the comparative study, analysis and treatment of various chronic disease, including a large percentage of affections of the alimentary canal, of the nerves, lungs and kidneys, and I am convinced that the usual methods of diagnosis and treatment of most of the chronic diseases of the digestive tract are of very limited value, even in such conditions as simple constipation and simple dyspepsia, so called, and we are not doing justice to our patients if we do not adopt, as far as practicable, the advanced processes of correct diagnosis and treatment which are so successful abroad and in the East.

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Neurasthenia.—From the Stand-Point of the General Practitioner.

BY I. N. LOVE, M.D.

Read before the St. Louis Medical Society, Feb. 17, 1894.

I take it that the object of our coming together as members of the St. Louis Medical Society is that we may learn of each other.

We are then all teachers and pupils. He who contributes a paper upon a given subject to a scientific body usually is, or should be, benefited more than his listeners; but we should all remember in our work here the thought of Bulwer, that "the best best teacher is the one who suggests rather than dogmatizes and inspires his listeners with the wish to teach himself."

A recent contribution to this body with the title, "Current Fallancies about Neurasthenia or Nervous Prostration," was the predisposing cause of the contribution to this society read January 20, three weeks ago to-night, but the direct exciting cause was the following which I quote from the paper referred to:

"There is no class of sufferers that is more persistently and vigorously maltreated than the neurasthenic. The cause of this lies in the fact that there is no organ, member or tissue in the body which has not been held up as the chief offender in neurasthenia by some or another specialist. The worst of it is, that, since specialism is still on the increase, and the number of offending parts of the body is still multiplying, and, however much legitimate specialism may have done for the advancement of the medical science, it must be admitted, that the abuse of specialism has assumed the proportions and significance of a nuisance. There is to-day no specialty, but that does not consider neurasthenia a legitimate and fruitful field for its work, in a few instances to the advantage, but much more frequently to the detriment of the patient. Broadly stated, the medical profession of to day may be divided into two classes, the peripherists, comprising almost all specialists, and the contralists, found principally among the general practitioners and the neurologists. It has been said of the latter that whenever they do make a right diagnosis, as a rule nothing can be done for the patient. This is unfortunately true in a measure, but in this sense, that the patient has already gone the round of the peripherists, the specialists of the various organs, who mistook the case for being a local trouble causing general symptoms, and tinkered at irrelevant symptoms, until the precious time for rational general therapeutics was gone. Had they looked upon the disorder of the various organs with a "central light," interpreting the local trouble as being due to a general central disturbance, the result of their therapeutic efforts would probably have been entirely different."

"As a matter of fact it must be stated, that social strata do not make any difference in the frequency of Beard's disease. Rich and poor are indiscriminately affected by it. The only difference is in name, not in fact. For, while the well-to do neurasthenic, especially he that has has an inkling of the ailment from his reading on the subject, is apt to apply to a neuroligist for relief, and get from him the true name of the disease, the poor man has to be satisfied with the diagnosis of biliousness, dyspepsia, catarrh and similar diagnostic incongruities, and is allowed to worry-through his collapses as best he can, with the aid of quinine, calomel and tonics."

The first I interpreted as a severe and caustic arraignment of all specialists and the second quotation an unkind reflection upon the recklessness and ignorance of the general physician who treats the case of neurasthenia, so-called, chiefly through the liver, by the aid of quinine calonel and tonics.

In the paper which aroused the discussion of which this is the close, I endeavored to emphasize the thought of Landon Carter Gray, that neurasthenia has been given extravagant prominence; that ninety per cent of the so-called cases of neurasthenia were due to muscular and nerve fatigue, nerve poissning and peripheral irritations, and that they were spurious neurasthenia; that the conditions occasioning the symptoms were easily removed and that the patients if properly treated soon became well equipped in their nerve force, but I was willing to allow that possibly ten per cent of the so-called cases of neurasthenia were such; that these cases resulting from various exciting causes, which had been too long continued, were distinct cases of nervous exhaustion and as such would require long and careful treatment, including possibly the armamentarium of the skillful neurologist.

Before leaving the consideration of the paper referred to with the title, "Current Fallacies about Neurasthenia or Nervous Prostration," I desire to say that it was negative throughout. It contained not a single definite positive proposition; one, that would be of service directly to this Society and the profession in the management of the disease if such a disease exists. It could well come under the head of the "Don't" literature which has flooded the country for a series of years. The "Don't" style of discusion may appeal to the unthinking masses and may receive attention from the uncultured, but, whether directed toward the consideration of scientiffc problems or social topics, it is unfitted for present ment to those who are well trained end equipped in a manner to understand the definite substantial thoughts in the line of the best good of the subject considered.

Dental don'ts medical don'ts and etiquettal don'ts, or neurasthenic don'ts may serve to catch the unthinking or those who consider subjects superficially; certainly not learned bodies. Nihilism in medicine is as much out of place as in society; in both and everywhere it is an enemy to progress.

Surely in the discussion of scientific subjects, charity and kindliness together with toleration, should prevail. One could wish that Dr. Bremer had not gotten his own consent to say of any one who was cited as an authority

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upon neurology, as he remarked of Ranney. "He is no neurologist. When God Almighty was in a peculiar mood, he let Ranney write a book." Were one to discuss Dr. Bremer's paper in the same spirit, they might well ask, what humor God Almighty was in when he permitted Dr. Bremer to write that paper, but I would not think of giving expression to such a thought. I am not surprised that Dr. Bremer should, on the floor of this house enter his protest against the further discussion of of neurathenia; though one should suppose that he who had read a paper inviting discussion, would be the last to introduce a resolution suppressing discussion. I am free to say, that this gave marked evidence that the essayist referred to has had enough of neurasthenia, and the man is fortunate who knows when he has enough. I endorse his admission made two weeks ago upon the floor of this house, that in his paper he might well have been less dogmatic, more explicit and entered more into elaboration and detail. Altogether, the spirit manifested on both these occasions was a very different one from that which prevailed throughout the original paper, and on a subsequent evening, when he manifested a disposition to over-whelmingly,crush by manner and words, the present speaker for having dared to enter a voice of protest against the sentiments enunciated in the original paper. If the essayist has learned that a paper presented to this body is open for discussion and, that if it is not tenable, that it will be attacked, he has learned that which will be to his advantage. I desire to express to him my personal thanks for the contribution which he has given to this society, for the reason that it has opened up opportunities for the enlightenment of all of us, and of one more than myself; although I can but admit that very few rays of light fell upon the subject from his intellectual lamp.

The clear cut, concise contribution to this subject, from the stand-point of primary gastric disease and resultant toxic poisoning, made by Dr. Paul Paquin, is most valuable. Dr. Paquin's eminence as a pathological worker and experience as a clinical observer justify us in deeming him high authority. The character and reputation of the highly intellectual and handsome Hughes, entitle his views to the most thougtful consideration, and there is not a point which has been presented by him, but which should be carefully weighed. I interpret all that they have said as in no way opposing my original position, that ninety per cent or more of the so called cases of neurasthenia are spurious. But, after all, the query may well be made whether the neurologist, and other specialists as well, sufficiently often interrogate the entire anatomy of their patient but instead, concentrate their eyes upon that particular organ which their particular speculums permit them to investigate.

During the past few years, the great and good Goodell of Philadelphia, whom we are all accustomed to look upon as one of the brightest lights in the gynecological field, has been presenting to the profession a series of contributions with the title, "What I have learned to unlearn," and "Some of the Great Medical Errors of the Day," etc. These papers were frank, honest admissions that he himself, together with the other workers in his line, had too often concentrated their attention upon the special organs of woman and too often the entire pathological field had been over-looked Admitting that many and many time a sore brain had been interpreted to be a sore womb, that an outraged nervous system and digestive apparatus had too frequently been thought to be ovarian or pelvic disease notes of warning were uttered which are bound to call a halt upon the part of gynecological workers, the result cannot be other than good for the women of the world. So, ever and anon, golden gems like unto Goodell come from other specialists in other fields. Let us hope and pray that something similar may soon be heard from the neurological arena in addition to what Professor Bouduy in a burst of confidence has given us. A few frank admissions from that direction, a little preaching to the psychiaters upon the part of the members of their congregation, suggesting a study of peripheral irritations, an appreciation of the importance of metabolic changes, will be productive of good. The dangers to nerve centers from peripheral irritations and toxic poisons, auto infections as it were, all these things will, in time, be presented to us by the honest delvers in diseases of the nervous system. Much more appropriate would these things be than attacks, unkind and severe, made upon other specialists and general pathologists.

I desire to thank Dr. Bauduy, the eloquent, erudite, earnest, emphatic, energetic Stephen A. Douglas, of the St. Louis Medical Society. The kind words of the Little Giant addressed to me were like himself, gentle and pleasant, smooth and polished, but particularly do I desire to thank him for having sustained me in my position upon neurasthenia, so gracefully and so ably. He even went further than I did in his arguments. I claimed that fully ninety per cent of the so-called cases of neurasthenia were spurious. I granted that possibly ten per cent might be bona fide, might represent a definite, morbid entity, though expressing the thought that none of the names applied were appropriate, for the reason that they express symptoms rather than a pathological lesion. Dr. Bauduy, by one long linguistic sweep, wipes off of the nomenclature the very name of neurasthenia and announces his disbelief in the thought that such a thing has an existence and, I must admit, that he goes far in the direction of proving his claim by citing such able authorities as Charcot, Gowers, William A. Hammond, and others. Surely, when I am sustained in the position which I have taken and more than sustained, by the Napoleon of Neurology, Charcot, and the grand old Duke of Wellington in nervous arena, Gowers, by the Andrew Jackson of the medical profession of America, William A. Hammond, intellectual giant that he is, in spite of his calumniators, that in addition to all of these I am sustained and more than sustained by the bright, bold, broad and

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brainy Bauduy, the polite, piquant, polished, persuasive, pungent pink of perfection in the psychiatrical pasture, he whom, if we were to compare him to any military hero, on earth, we would have to say, came nearer being the boiled down crystallized expression of George B. McClellan, U. S. Grant, strong and solid, the gallant Custer and Stonewall Jackson, he of the adamantine will, the ideal Christian soldier—surely to be sustained by such as these is as much as any one might ask.

I desire to return my sincerest thanks to each and every speaker and to this Society for its courteous hearing given me. I know that the patience of my confreres has been tried sorely and the humor of each individual is similar to my own, which was well expressed, when

"I asked a mother, tried and blest,
With babe asleep upon her breast;
"Oh, mother fond, so proud and fair,
What is thy inmost, secret prayer?"
She raised her calm and peaceful eyes,
Madonna-like, up to the skies:
"My dearest wish is this," said she,
"That God may spare my child to me—
And save him from neurology."

And when again I asked a woman old,
To whom the world seemed hard and cold.
Pray tell me, oh, thou blest in years,
What are thy hopes, what are thy fears?
With folded hands and head bent low,
She answer made in accent slow;
"From the sad and soulful worldful diarrhea,
Neurologists give us on neurasthenia;
There follows for me but one request,
It is, that from it all God may give me rest."

The Uterine Curette.

BY CAREY KENNEDEY FLEMING, M.D.

Lecturer on Gynecology and Assistant to the Chair of Gynecology, Abdominal Surgery and Clinical Midwifery at the Gross Medical College; Attending Gynecoloist to the Deaconess Hospital; Attending Gynecologist to the Hermann Strauss Free Clinic, Denver, Colorado.

Read by title before the Western Association of Obstetritians and Gynecologists, at Des Moins, December 28, 1893.

HISTORY.—In the year 1846, a French Surgeon, named Recamier, devised and introduced the instrument called Currette. Wide popularity of the instrument at that time was hindered by the severe criticism and opposition, its use met with, as it was considered unscientific and barbarious by the authorities of that time. Our own Emmett says: "That the ingenuity of man has never devised one (instrument) capable of doing more harm." Yet, how could the obstetrician or gynecologist of to-day do away with the curette from his armamentarium. Even as late as 1885, the use of the curette was quite limited. We read in Munde's Minor Surgical Gynecology, that "There is really only one indication for the use of the curette, and that is pathological uterine hemorrhage, menorrhagia or metrorrhagia." However, since the publication of Dr. Munde's work, the applicability of the uterine curette has rapidly spread, until at present it is used even for conditions which at one time were considered contra-indications to its use, for instance, salpingitis. In recent articles in our journals by prominent writers our attention has been called to the value of curettage, as a preliminary step to laparotomy, certainly a remarkable change of opinion. This, of course is accounted for by our better understanding of the pathology of pelvic disease, and our more thorough knowledge of asepsis. There are two general varieties of the curette, the dull and sharp.

THE INDICATIONS FOR THE USE OF THE CURRETTE. I believe to be as follows.

1. For diagnostic purposes.
2. All forms of endometritis.
3. Salpingitis and acute peritonitis.
4. As a preliminary step to laparotomy.
5. Neoplasms of the mucous membrane and walls of the uterus.

RECAPITULATION.—1. As an aid to the diagnosis of intrauterine disease, a currette is the instrument par excellence. By its use the cause of uterine hemorrhage can be ascertained, provided, the cause is intrauterine, whether or not, it is due to a diseased condition of the endometrium, or to the presence of growths in the uterine cavity, or, to the presence of retained secundines. The debris removed, should of course be subjected to close inspection and if necessary to microscopical examination. Where pedunculated submucous fibroids are present, their attachments can be easily determined by the curette.

2. All forms of endometritis are caused by the development of bacteria. In the catarrhal form the development of the germ is secondary to some exciting cause, such as displacements of the uterus, stenosis of the cervical canal, constipation or sexual excesses. In the septic and specific (gonorrheal) forms, the infection is the primary cause. In the septic variety the infection follows labor or abortion, from the retention of pieces of the membranes, or, of the placenta, or, from the lack of asepsis on the part of the attendant. Septic endometritis may also be caused from sloughing polypi or malignant degeneration of the uterine mucous membrane.

Another potent cause of septic endometritis is bad or unscientific gynecological treatment, where the operator is in the habit of introducing into the uterus of each patient, as she presents herself for treatment, dirty uterine probes or sounds, thus infecting the patient and converting a catarrhal into a septic endometritis. The specific form is caused, as we all know, by infection from the gonococcus. These latter forms are extremely dangerous, on account of the liability of extension to the pelvic structures, via. the Fallopian tubes, or carried by the lymphatics.

The use of the curette is clearly indicated in the various forms of this disease, in the chronic catarrhal

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variety which has resisted all mild treatment; I believe that by the use of the curette, and the correction of all existing complications we may hope to cure our patient, for in order to perfect a cure, the hyperplastic mucous membrane must be removed. In the septic and specific forms the uterine cavity must be curetted, thus removing the infected mucous membrane, and decomposing membranes or placenta, if present. It is only in this way that grave pelvic disease can be prevented.

Salpingitis and Acute Peritonitis.—3. Conditions that at one time were considered contra-indications to the use of the curette, are now treated largely by curettage.

Pryor says: in speaking of endometritis, "Here started the sepsis, here attack it. The diseased tubes are not alone to blame, but chiefly the lymphatics. Large masses of lymph are absorbed after the septic focus is removed. There will remain no acute peritonitis but merely the results of peritonitis, which can be more easily dealt with."

Curettage as a Preliminary Step to Laparotomy.—4. This procedure has been practiced by Pozzi of Paris, and is highly recommended by Pryor, in a paper read before the New York Obstetrical Society in 1892. He (Pryor) believes, as do most authorities at present, that the septic focus is situated in the uterine cavity, therefore, the removal of large pus tubes will not cure the patient, for the pelvic peritoneum is liable to reinfection through the lymphatics. Consequently, the need of an aseptic uterine cavity before laparotomy. There is danger in curetting a uterus complicated by large pus tubes. For this reason Pozzi, in cases of greatly distended tubes and fearing rupture, in case of much traction on the uterus, advises that the curettage be postponed until after the removing of the tubes, when we may hope for good results.

Neoplasms on the Mucous Membrane and Walls of the Uterus.—5. It is a self evident fact that the curette is indicated in all new growths of tumors in the cavity of the uterus, particularly when they are of the non-malignant variety, and of the malignant, when hysterectomy is not permitted.

Contra-Indications to the Use of the Curette.—Suspected pregnancy is always a contra-indication to operations on the uterus. As other contra indications to the use of the currette may be mentioned, poor and dirty surroundings, and a septic operator. The country is full of practitioners who have not the least conception of the meaning of asepsis, and yet who attempt to do various operations, and wonder why their results are not better. For this reason I believe, that unskilled and unscientific operators should not attempt operations which require such perfect technique for success.

A Few Points in the Technique of Curettage.—The room in which the operation is to be performed should be scrupulously clean, surgically clean, if possible. For this reason in operations of this kind, where such results cannot be obtained, the patient should be removed to a hospital, where every attention to detail is possible.

Preparation of Patient.—As far as possible the operation should be done soon after menstruation, the patient being as carefully prepared as though a vaginal hysterectomy were to be performed. She should have a bichloride douche the morning of the operation. The rectum should be emptied thoroughly by an enema, and afterwards washed well with sterilized warm water. The bladder should be evacuated by a surgically clean catheter. The pubic and labial hair should be shaved and parts scoured with brush, water and antiseptic soap, afterwards thoroughly washed with a bichloride solution 1 to 1000. The vagina should then be douched with a 1-2000 solution. Pozzi recommends that the vaginal douche be repeated, once every hour for three consecutive hours.

Instruments.—The instruments used in this operation should be sterilized by boiling under pressure for one-half hour prior to the operation, in a five per cent solution of carbolic acid.

The Hands of the Operator.—As well as of the assistants, should be as carefully cleansed as for an abdominal section. These precautions may seem superfluous to many, nevertheless, I have adopted Ashton's rule, "Never enter the uterine cavity or the cervical canal unless it is done under an anesthetic and with strict operative asepsis."

The Operation.—It has been my practice to always use the sharp curette except for diagnostic purposes, when one of the dull variety will answer every purpose.

After the patient is brought into the operating room, and just before administering the anesthetic, she is given

℞ Tinct. nux. vom. - - - - gtt. xv.
Spts. frumenti. - - - - ℥ss.

This acts as a stimulant and prevents vomiting after the operation.

After the patient has been anesthetized, the legs should be well flexed upon the abdomen and held by two assistants. The vagina should then receive a thorough douching with a bichloride solution as previously mentioned. Then with a Skeen's double tenaculum the uterus is cautiously pulled down, especially if pus tubes are present. The cavity of the uterus should then be carefully scraped from above downward as rapidly as possible. The cavity is then irrigated with hot sterilized water and wiped dry, and an application of equal parts of the tincture of iodine and carbolic acid thoroughly applied to the entire cavity. Following this the uterus should be packed with narrow strips of iodoform gauze, which should be moved in 24 or 48 hours.

If the patient is in the hospital she receives bichloride vaginal douches twice each day after the removal of the gauze. The bowels should be moved on the second day after the operation, and thereafter once each day, with an enema, if necessary.

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If the patient is operated on at home, it has been my

practice to place in the vagina after each douche a vaginal suppository containing five grains of iodoform or aristol.

Patients are always kept in bed at least a week.

DANGERS OF THE OPERATION.—As to the danger of the operation, it is quite remote, provided it has been properly performed and all antiseptic precautions have been taken.

The Principle of Hypnotism in Pugilism.

BY FRANCIS KEANE MURPHY, M.D., ST. LOUIS, MO.

There is conviction in the writer's mind, that the prowess, the physique, the prestige of the ex premier of the fistic arena yielded, fell, not before superior science, strength or agility so much as it collapsed before the calm front, the steady mien, the unwavering eye of an opponent who refused to be frightened, to be stared out of countenance by him who always began his battles by looking with savage, and ferocious contempt upon his adversary, and thereby, had the contest won before a blow was struck or parried. The untamed, terrible eye of the champion quailed this time before the indomitable, fearless gaze of one who had come to know that mere physical force can be subdued by a play of intellect, and who knew, intuitively, at least, that if the nerves which preside over the tone, the function of the muscles, if these nerves are shaken, disturbed by an overmastering psychic or odylic force, they are given over to the production of "automatism at command" and leave the muscles relaxed or rigid, more or less at the will of the operator.

That this was exemplified in the Sullivan-Corbett bout there is little room to doubt. That such an effort was conscious and premeditated I will not assert, but that Corbett was full of "daring do" and prepared to die or win and that he had the amplest confidence he would win and that this brought into play the very psychic or odylic force in question and that in effect he had a pretty play of intellect as arrayed against the the greater force but duller apprehension of Sullivan, all this I do certainly maintain.

The result of that battle was the survival of the fittest, not so much, by any measure, in a physical as in a psychic sense, or more narrowly speaking was brought about by an overmastering, nervous, odylic or hypnotic force, passing from the victor to the defeated.

This was instanced again in the Corbett-Mitchell affair. Flushed with success and the eclat of a conquerer, Corbett was, *ceteris paribus*, invincible.

Michell was a depressed, disheartened, and therefore very probably a defeated man at the very inception of the fight.

He was brave and sturdy no doubt, and hoped accident might turn the tide of battle in his favor, but there is little doubt that he felt he was hoping against hope.

So long as Corbett's mentality and nerves act so well in concert with his superior physical equippment he will probably continue to win. For what is hypnotism, mesmerism or magnetism if it is not a manifestation of nerve force, and what in turn is the superior play of intellect if it is not the exhuberance, the exhiliaration of a finely wrought, highly endowed nervous system which in a measure presides over the entire man psychic and physical.

2117 Olive Street.

The Alleged Antagonism of Tobacco and "English Cholera."—In October, 1893, the Greenwich Workhouse, near London, suffered from an epidemic of choleraic diarrhea, or "cholerine," that produced fatal results in eleven cases (N. Y. *Med. Journ.*). The total number of cases were near two hundred and fifty. The disease was by many considered to be an outbreak of genuine Asiatic cholera, while others chose to donominate it "English cholera." The *British Medical Journal* for December 23 contains a special report that is positive in its denial that the attack was Asiatic in character. An examination was made, by order of the Local Government Board, by Klein and Dr. Bulstrode, and the results were made public on December 12, at an adjourned corner's inquest. The testimony of the experts tended to show that the disease was an infectious diarrhea such as occurs during cholera years, but lacks the severity of true cholera. The bacteriological researches made disclosed no Koch's bacillus in any case. Dr Klein stated that he had obtained, by cultivation from the intestinal discharges or contents, a new bacillus of the *Proteus* group. This microbe was not found in the well water of the workhouse, which water was beyond doubt the cause of much of the sickness. That water could not have been the sole cause or the *primum agens*, because there were persons taken sick outside the workhouse who had had no access to that water.

From a London letter to the *American Practitioner* we quote the following paragraph that has as interesting account of the alleged antidotal influence of tobacco against this form of infection:

"With regard to an outbreak of cholera at the Greenwich Workhouse, it is said that it is very noticeable that male inmates who had been great smokers or who had been in the habit of chewing tobacco had passed unscathed through the epidemic. Nearly every adult male in the workhouse was or has been a smoker, and the statistics of the epidemic shows that only eighty-three males had been attacked as compared with one hundred and sixty females. Generally speaking, the males' attacks were of a mild nature. There were several old Irish women in the workhouse who smoked before their admission (now and then they could manage it), and it is stated that not one of them had been attacked. The investigation which has been held leads Dr. Burney, the senior medical officer of the institution, to believe that the epidemic must have been caused by the water."

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EDITORIALS

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

All letters containing business communications or referring to the publication, subscription, or advertising department of this REVIEW, should be addressed to 914 Locust Street, St. Louis.

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The Reporter Question Once More.

In a former number of the REVIEW we have raised the question whether the time has not come to re-inforce a rule introduced by the late John T. Hodgen, excluding reporters from the meetings of the St. Louis Medical Society.

For arguments sake we will admit, that rows, (so-called) or what may only appear to be rows to outsiders, do occur at times; we will admit, that the St. Louis Medical Society, as has often been asserted by the stay-aways, is essentially a fighting society; we will admit, that occasionally a member will make a descent, to do up a confrere, and that the motives underlying such an undertaking are not exactly in the line of purely scientific conviction; we will finally admit that sensationalism and personal scores creep into the proceedings of the Society.

But, then, these are family affairs and the public has no right to know of them, and if it does get knowledge of them, such information is according to the color-perceiving apparatus of the reporter, who is ordinarily not supposed to be the proper judge of medical matters or of medical men. To a reporter a paper read before the Society may seem dull, whereas to the members listening to it, it may be of great interest. But the report goes out to the world, that Dr. X. was a failure as a medical essayist.

Here is a specimen clipped from a morning newspaper of February 25, 1894:

"The paper of the evening was read by Dr. McCullers, on 'Mechanical Therapeutic Apparatus.' The history of massage treatment from early ages, from which in later times came the so-called Swedish movements, was given, and the paper led up to Zander's invention of apparatus for the proper exercise of these movements.

"During the reading of this paper there must have been a general relapse in the condition of the majority of the sick people in St. Louis, judging from the number of physicians who grabbed their coats and hats and left the meeting hall hurriedly. When Dr. McCullers concluded his description of the apparatus in use in a local institution, it was 10 o'clock, and the Society, ignoring his closing words, 'I invite discussion,' adjourned with an understanding that discussion would be permitted next Saturday evening. There have been rumors during the day that several of the members would bring charges of a violation of the Code of Ethics against Dr. Heine Marks, Superintendent of the City Hospital, consequent upon the publication in the daily newspapers, especially the *Globe-Democrat*, of accounts of the many successful surgical operations of high and daring class which he has performed since he took charge of that Institution. The charges were not presented, however, but may be at its next meeting. There is sure to be a lively discussion over the report of the Committee on Ethics when it shall be made. Under the rule, the charges go to that Committee without reading. Friends of Dr. Marks will claim that, inasmuch as he is a public official, the general public is entitled to a scrutiny of the public acts—and surgical operations are of these—and that he is, under the circumstances, not amenable to the ethics that apply to a general practitioner."

Now, we claim that a gross injustice is done Dr. McC. in a spirit of unwarranted wantonness. Dr. McC. is a young man of good standing in the profession so far as we know; he made his debut on the floor of the Society believing that he would get a respectful hearing from the members, which he did. The interpretation on the part of the reporter, of members picking up their hats and leaving in a hurry, suggests that the Society metaphorically "sat down" on the doctor, which is not in accordance with the facts.

A few more such reports, and no young member, who is in the least susceptible to ridicule, will dare read a paper hereafter. The floor, then, will belong to tried veterans or sensationalists.

The passage relating to Dr. Marks we reproduce in order to show that to the average mind of the newspaper man a disagreement on medical ethics is a particularly palatable morsel. We do not blame the reporter for this; it is inherent in the business. But we blame the

Society for permitting medical family affairs to become public property. When we consider how erroneous public opinion is on so many questions, pertaining to medicine and doctors, when we remember for instance, how widely divergent public opinion and the opinion of the better class are as regards the scientific standing of some members, and how easily the public is influenced through the press (*vide* the flourishing business of the army of quacks who owe their existence for the most part to the newspaper) it becomes plain even to the dullest intellect, that, to open the doors of the Medical Society to the reporters, is tantamount to exposing it to the danger of misrepresentation, whether willful or unintentional, is not here the question. The Society was founded for the purpose of affording reputable members of the medical profession an opportunity of mutual instruction by exchanging their experiences in study and practice.

By usage it has also developed into an arena, in which learning and skill are supposed to find a competent audience of judges. Reputations of medical men have thus been made. This is legitimate and proper. Doctors ought to make their reputations among doctors. But if the lay-press step in to pass upon our papers and discussions, praising one and ridiculing another; or magnifying gossip into affairs of capital importance, always with an eye to a prospective row, it is high time that something ought to be done to squelch the abuse.

The "Review" the Official Organ of the St. Louis Gynecological and Obstetrical Society.

We take pleasure in informing our readers that the REVIEW has been chosen as the official organ of the St. Louis Gynecological and Obstetrical Society and the publication of the proceedings of this dignified body begin with this number. The REVIEW justly deserves the co-operation of the better element in the medical profession, whose support in our effort to improve its standard we appreciate highly. The publications of the proceedings of this Society in addition to those of the St. Louis Medical Society, will in no small measure help to maintain the REVIEW's reputation as a scientific and interesting journal.

A Counter-Experiment on the Morphine and Permanganate Question.

Perhaps it is not quite appropriate for a dignified medical journal like the MEDICAL REVIEW to notice such semi- or rather pseudo-scientific lucubrations as were sent out broadcast over the country from a center of homeopathic learning to the effect, that disciples of Hahnemann had discovered an antidote to morphine in the potassium permanganate.

The experiment was done in the presence of the usual expert, a representative of a daily paper, on a dog. The dog recovered by means of the antidote from an alleged fatal dose. A medical man (it is not stated, what his daily allowance of the drug was), recovered also, or rather, he had no symptoms of morphine poisoning from a dose of three or four grains. (We know a doctor who is as lively as a cricket after a "shot" of twelve grains without the antidote).

Now comes a doctor practicing in Carthage, Mo., who, also in the presence of the indispensable reporter, imperils the lives of two dogs with four grains of morphine each. One is given the antidote, four grains of potassium permanganate, which does not make a particle of difference, for both dogs recover without any difficulty.

If these experimenters knew a little of physiology, they would not have taken the trouble to experiment on the dog with morphine; this animal is "refractory" to opium and its derivatives to an astonishing degree. So is man in some instances.

Such experiments are "for the dogs."

The Sedative Action of Duboisine in the Treatment of the Insane.

E. Marandon Montyel (*Archives de Neurologie*) formulates the following conclusions with regard to his experience with this remedy in thirty-five cases of mental derangement:

1. Duboisine is a marvellous sedative, capable of allaying always and in all cases lypemania and maniacal excitement, whether of a vesanic or of a paralytic nature, and of producing an absolute calmness in excitable or the most violent cases. The action of the drug is always effective and manifests itself in two phases,—the one an incomplete attenuation of the excitement; the other a complete one, characterized by a total disappearance of the pathological condition, and which lasts for a more or less lengthy period of time.

2. The sedation caused by duboisine is not always of the same intensity; generally, it does not come on until the second day, sometimes not until the third day after the administration of the drug.

3. Once produced, the sedation of the drug is maintained steadily, provided a habit is not made manifest; exceptionally, good and bad days alternate.

4. The action, even when complete, often persists one or two days after the ingestion of the drug has been stopped, and sometimes longer.

5. In the intermittent or remittent forms duboisine is capable of reducing the duration of the crises and of prolonging the intervals between them.

6. The sedative action of duboisine, particularly during the first days of its administration, is generally in inverse ratio to the time which has elapsed after the ingestion of the remedy, and thence the advantage of giving the daily amount of the medicament in two doses.

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7. The action of duboisine is more frequently complete in chronic than in acute mania; and, on the contrary, more so in acute than in chronic lypemania.

8. In general paralysis the complete action of duboisine is less frequent than in chronic mania or acute lypemania, but more so than in acute mania or chronic lypemania; and, similarly, more frequent than in mania or lypemania in general; so that, in a total of cases of general paralysis, the sedative influence of the drug was more marked in these than in those cases of a vesanic nature.

8. The organism of the class of patients here considered becomes often and quickly accustomed to the influence of duboisine, and this habit—which, as a rule, is established abruptly—once produced, rebels, ordinarily, to increased doses of the drug; this is true particularly in regard to the production of complete sedation.

10. The duboisine habit occurs more frequently and more rapidly in cases of general paralysis than in those of a vesanic nature, or of acute and chronic mania and chronic lypemania; it is the same in general paralysis as in acute lypemania, and of more frequent occurrence in lypemania than in mania; finally, it does not come on in chronic vesanic cases.

11. The incomplete action of duboisine is less frequent in general paralysis than in vesania, but more frequent than in chronic mania and acute lypemania; it is less frequent in mania than in lypemania, in chronic than in acute mania, in acute than in chronic lypemania

12. In general terms, it may be said that duboisine is more active in cases of general paralysis than in vesanic cases, in mania than in lypemania, in chronic than in acute mania, and, *vice versa* in acute than in chronic lypemania.

13. Owing to the influence which duboisine exercises on the stomach, it is better to administer the drug, in order to obtain a sedative effect, during the day and as long after each of the two principal meals as possible.

14. Unfortunately, duboisine acts in a deleterious manner on the process of nutrition, especially when given for a long time. This action is to be feared, and notwithstanding the marvellous sedative properties of the drug, is a drawback to its employment, particularly when the use of the medicament is to be prolonged.

The Femals Membership in the British Medical Association.—The *British Medical Journal*, January 6, gives a list of of the ladies who have been allowed to enter the great National Association. The list contains twenty names, headed by Mrs. Garrett Anderson of London. At the annual meeting of the Association, last year, at Newcastle, the by-law were so amended as to expunge all clauses that have hitherto rendered women ineligible for membership of the main Association and in the branches. The number of lady doctors in the United Kingdom was 135 in 1892, whereas in 1878 there were only 8.

CORRESPONDENCE

Washington Letter.

Editor MEDICAL REVIEW.—In accordance with the present progressive attitude of the Medical Department of the United States Army the Surgeon-General (Dr. G. M. Sternberg who has such a world-wide reputation as a bacteriologist and whose recently-published and superb work is justly regarded as an authority upon the subject) has instituted an Army Medical School which has been in active operation since the first day of November, 1893. The purpose of the school is to thoroughly instruct the newly-appointed officer in the peculiar duties and obligations which he is to incur in his new life and also to instruct him in bacteriology, military hygiene and surgery, etc. before sending him off to the field for active service. The sessions of the school, of which this is the first, are four months in duration and are held in the building of the Surgeon-General's Office. This structure contains the Army Medical Museum which contains itself the finest and most superb collection of pathological and physiological specimens in the world; here we also find the Surgeon General's Library, the very largest and most complete collection of the medical literature of the world in existence. The school itself is well-fitted with laboratories of the latest and most approved pattern and these chemical, physiological and bacteriological laboratories are themselves fitted out with an abundance of the very latest and most approved patterns of instruments designed as aids to scientific study and research. At the present time the students consist of the five newly appointed officers (selected from among the forty applicants for examination in October, 1893) and several others older in the service who are stationed in the vicinity of Washington and to whom the privileges of the Army Medical School have been extended.

Dr. W. W. Keen, Philadelphia's or rather America's noted surgeon-anatomist, was invited to address the members of the school on the eighteenth day of January and accepted the invitation. Notwithstanding the fact that the lecture was under the auspices of the U. S. Army Medical School and to its students, when the Deputy Surgeon-General stepped to the rostrum and faced the audience assembled in the spacious hall of the Surgeon-General's Library he found before him an audience with a large sprinkling of Washington's most eminent physicians — such as Dr. S. C. Busey, the Nestor of the local profession and the President of the Medical Society, Dr. S. S. Adams, Drs. Ober, Marmion, McArdle and many others. Moreover many of the medical students, who always delight to do Dr. Keen honor, were out in full force; each of the four local medical schools was well represented.

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Just as the hands of the clock swung to the hour of three, Colonel Charles H. Alden, the Deputy Surgeon-General of the Army and the President of the Faculty of the Army Medical School, stepped to the rostrum. He said that he could hardly say that it was his function to *introduce* Dr. Keen to the audience assembled for that would be an ill-advised use of the word to say the least. No American physician or even medical student needed an introduction to such a man as he—he had already introduced himself to them in the very best manner possible; nevertheless it gave him, as doubtless it did all of the others assembled, very great pleasure to announce that Dr. Keen would favor them with an address.

Dr. Keen in replying took occasion to compliment and commend the wise, liberal and far-seeing policy which had enabled the establishment in this country of such an institution as the Army Medical School. He also said that the opportunity to address the school gave him peculiar pleasure, not only on its own account but also because it gave him an opportunity to renew his acquaintance with the President of the Faculty, Dr. Alden; that they had been fellow students at the same institution and afterwards associated together in the same hospital.

After a few preliminary remarks he proceeded with what proved a most interesting and instructive discourse on intracranial hemorrhage and abscess. The table before him was covered with exquisite models in wax and plaster as well as a wealth of preparations of the natural structures of the skull and its osseous elements. By means of these aids and of charts upon the blackboard, but mainly by virtue of that peculiarly clear, concise and succint style which is Dr. Keen's very own, he discussed and explained the anatomical structure and arrangement of the temporal bone. He described the post meatal triangle which is just posterior to the meatus of the external ear formed by the lower portion of the root of the zygomatic process, the posterior margin of the external auditory meatus and a line drawn from the squamo-parietal junction to the apex of the mastoid process. He emphasized the importance of the post-meatal triangle in operative treatment of mastoid and abscesses of the brain in this region; if the triangle was well-defined and the aperture made within its limits, especially in the upper portion because it was essential that the antrum be reached, danger of wounding the lateral sinus, which lay behind the triangle or posterior to it rather, would be thus obviated. He called attention to the exceedingly thin plate of bone separating the internal ear, which communicates with the antrum, from the cerebral cavity and emphasized the fact that this must be borne in mind because it indicated a possibility of extension of trouble from the inner ear or mastoid antrum to the brain itself. In opening the mastoid antrum he especially deprecated the use of the chisel not only because of the fact that the force might result either directly or indirectly to the patient's harm; this could be done either by scattering the infectious or purulent matter beyond what may be its circumscribed seat, or the shock of the concussion of the hammer might prove disagreeable in its effect upon the brain directly or, as has been done in some cases, the chisel might accidentally be driven harder than intended and the brain substance itself thereby receive injury. He preferred the use of a burr or else a modified form of the carpenter's centre-piece; the gouge itself he ranked next in preference—the trephine was rarely to be used and still more rarely the chisel, indeed, in his opinion, never.

He made an especial and forcible appeal for early and *thorough* operative work in these cases; indeed, he very emphatically stated, if you begin the operation and do not make it a thorough one in every respect you have done your patient a positive injury. Either operate and operate thoroughly or let the case entirely alone. He overwhelmingly proved the value of operative interference by a copious quotation of statistics which showed a marked decrease in mortality as a direct result of such.

Beware, he said with ominous emphasis, of an otorrhea which suddenly subsiding brings in its train a fall of temperature to normal or even a subnormal degree and is accompanied by increasing hebetude. Do not be deceived by the absence of pyrexia or the delay occasioned thereby may be fatal. If you have a case of this kind you may be morally certain that it is a condition such as I have described to you. Do not let the patient die of such condition any more than you would let him die of abscess located more externally.

He spoke warmly of the recent work in pyogenic infectious diseases of the brain and spinal cord by William Macewen, of Glasgow, and earnestly commended it to the attention of his listeners at well as Macewen's book upon the subject. He paid a warm tribute to what Macewen had done for the cause of progress in this direction, an entirely modern one—for the first operation, as Dr. Keen said, was performed in 1886.

The latter ten or fifteen minutes of his hour, which passed all too briefly, he devoted to a discussion of the causes, diagnosis and treatment of cerebral hemorrhage illustrating the various points which he made by a citation of his numerous cases. Here he laid especial stress upon the value of a knowledge of cerebral localization as a means of diagnosis and illustrated by examples. Altogether the lecture was as instructive as edifying and as interesting as either.

The Washington Medical Society is preparing to celebrate its seventy fifth birthday, which occurs next month. This celebration will partake of something of the nature of a public exercise. The President of the United States and many other high in official circles will be present, as well as municipal officials and the most eminent physicians of our country. In all our broad domain there are but twelve medical societies which outrank that of Washington in seniority and we are justly proud of the fact and mean to celebrate it in fitting style too,—in this case there seems to be some-

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thing especially exhilarating about the number thirteen. The question arises as to whether that number thirteen, which is usually considered an illomened one, stands for misfortunes to the physicians or the citizens. Selah!

CHRONONOTONTOLOGOS.

The Medical Buccaneer.—The *Medical and Surgical Reporter* of January 27, 1894, says:

"To talk of amending codes, or instituting reforms or improving the status of the profession while this insatiable gourmand is allowed unfettered liberty is a travesty on reason. He plays his part in manifold ways. He often roams in high places, and may even wear a professor's gown. He looms up at medical conventions, and, indeed, may be an author of no mean position. He is always clamoring for reform; he wants to reform the code, let down the bars and clear the way so that his pilfering career may be unhampered. His neighbor stands in mortal terror of him, because he well knows that should he be required to call him in consultation the new arrival would quickly oust him and coolly take possession himself. He performs impossible operations, and always cures every case, and the unsuspecting, simple-minded, honest plodder, as he reads his statistics, is quite overcome with amazement and admiration. He has a sneaking way of advertising. To go into the regular column of the quacks would be to mix with the common herd; moreover, it is highly expensive; therefore he has himself iterviewed, or one of his helpers will see to it that while the great man speaks full stenographic notes are taken, and the thing, highly colored, will be spread broadcast in the early morning press.

"The drag net of the pirate is so far spread out that he leaves almost nothing for the honest plodder. From year to year he becomes more and more bold, and finally having duped and bulldozed his professional brethren, he turns his attention to lay people, before whom his hideous hypocrisy is supported by consummate strategy. He wants to raise funds for a ward 'for the poor, you know,' run soirees, parties, etc., until a necessary sum is wrung out of the pockets of the unsuspecting. Then he sud denly blooms out a specialist, and now that he is safely entrenched behind his own walls, in his zeal for patients his audacity is villainous, for through the mails, he is a constant intruder, incessantly appealing to practitioners to send to him that which they themselves depend upon for their living.

"Let every independent, self-respecting member of the profession rise and stamp out this scorpion. He is the bane, the curse and blight of a profession which without him has a career of usefulness and prosperity before it."

Now is the time to subscribe for the MEDICAL REVIEW.

BOOK REVIEWS

American Text-Book of Gynecology. Edited by J. M. Baldy, M.D., and made up of Contributions from Henry T. Byford, J. M. Baldy, Edwin B. Cragin, J. H. Etheridge, Wm. Goodell, Howard A. Kelley, Florian King, E. E. Montgomery, Wm. R. Pryor, and Geo. M. Tuttle. Philadelphia: W. B. Saunders. St. Louis: J. H. Chambers & Co., 914 Locust Street. Price, Cloth, $6.00; Sheep, $7.00; Half Russia, $8.00.

This book is every thing that its name implies. The names of the contributors are in themselves a guarantee of its merits.

The chapters devoted to uterine neoplasms and pelvic inflammation are particularly interesting as the methods of operations are well shown, not only by the pen of the authors, but as well by the beautiful illustrations.

Diseases of the urethra, bladder and ureters are also given considerable.

It is truly refreshing to see a work in which these subjects are accorded space sufficient in which they can be treated properly, as no ailments are more intimately associated with purely gynecological subjects than those incident to the urinary apparatus.

In short, this work should adorn the shelf of the general practitioner and it is a necessity to the busy gynecologist.

W. B. D.

How to Use the Forceps, With an Introductory Account of the Females Pelvis and the Mechanism of Delivery. By Henry G. Landes, A.M., M.D. Revised by Charles H. Bushery, M.D. New York: E. B. Treat. St. Louis: J. H. Chambers & Co., 914 Locust St. Price, $1.00.

This work is one of the most practical it has been our fortune to examine. We have long since thought that in most obstetrical works we do not find enough attention given to forceps delivery, and inasmuch as the forceps are condemned by many physicians who do not appreciate their usefulness on account of their lack of knowledge of their use, we are glad to see so commendable a book placed upon the market, the price being within easy reach of all. We trust it will be read and studied by a large majority of the profession as it is well worth the perusal of the general practitioner as well as the specialist.

W. B. D.

Aloe's New Catalogae (Sixth Edition) is, to our knowledge, the most complete surgical instrument catalogue published. The general arrangement is practical, the typography, binding and general appearance of the book are a credit to its publishers. We cheerfully recommend the catalogue to our colleagues. The book will be sent free to any physician guaranteeing express charges, or by forwarding the publishers fifty cents.

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MEDICAL SOCIETIES

St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Feb. 17, 1894.

The Vice-President, HEINE MARKS, M.D., in the chair.

DR. PAUL PAQUIN read a paper (see page 181) entitled,

"MAN'S STOMACH," ITS MALADIES, THEIR COMPLICATIONS AND CONSEQUENCES.

The stomach illuminator used by Dr. Paquin, was patterned somewhat after Eichorn's gastro-diaphone. It was improved by the doctor, and manufactured by the firm Holecamp, Grade & Moore, of St. Louis, for the occasion. The electric lamp used was only three volts, consequently of insufficient strength. But it illustrated the principle of gastro-illumination to diagnosticate dilatation and certain gross pathological conditions. The intra-stomachal electrode for galvanism and faradization was the Eichorn make itself.

DR. A. V. L. BROKAW presented a case of

EXTENSIVE SKIN-GRAFTING,

and demonstrated the method of apply grafts.

The patient, a boiler-maker, was injured on December 30, by a cog-wheel. The grinding force produced a very severe laceration of the superficial muscles of the forearm, tearing them from their insertion. Although amputation seemed to be indicated an attempt was made to save the arm. The lacerated muscles and skin were stitched together. Great tension resulted in consequence and was followed by a severe inflammation but no suppuration. After the inflammatory process subsided, skin grafts were applied, and the granulating surface was gradually almost completely covered. The grafts varied from one and one-half to eight inches in length, and were derived from various subjects. No antiseptics were applied directly to the wound, but it was covered by overlapping strips of rubber tissue and then dressed with 2½ or 3% iodoform gauze.

The doctor then illustrated the method of obtaining and applying the grafts, by cutting a long strip of skin from a subject and applying it to the granulating surface on the arm of his patient. An ordinary razor served as the cutting instrument, and the grafts extended just deep enough to include the papilla of the true skin.

The discussion of Dr. I. N. Love's paper (see page 183) entitled,

NEURASTHENIA FROM THE STANDPOINT OF THE GENERAL PRACTITIONER,

was resumed as a special order of business.

DR. HUGHES believed, that if there was any truth well established in clinical medicine, it was the existence of that condition known as neurasthenia. He said it would be almost folly to attempt to sweep away the idea of neurasthenia, at this late day in the progress of medical thought and observation. He called attention to the fact, that he had written the first contribution upon the subject, west of the Mississipi River, and had brought before the profession, Dr. Van Dusen, who had made a contribution before Dr. Beard's systematic treatise en this subject appeared. In support of his belief in neurasthenia as a disease, he cited briefly its history, its evolution from general medicine, and the opinions and writings of various authorities in this country and abroad.

Hesse in 1850, he said, had determined that there did exist a condition of exaggerated sensibility of the nervous system, which was not accompanied by a diseased condition of any special organ. At the same time Sandras, Cerise and Guilbert d'Harcourt, described it as an hyper-excitation of the nervous system. Wunderlich, in 1854, called it habitual spinal debility; Hesse, in 1855, nervous weakness; and Greisinger gave it the name of cerebral irritation. In 1868, George M. Beard published his book, which made his name famous throughout the world, and Van Dusen in the same year, made his name immortal by a contribution upon the subject.

The speaker produced a little volume on "Practice of the Diseases of the Nervous System in the Hospitals of Paris," in which were given the names of Charcot, Poff, Douchard, and Paul Block, as the chiefs of staffs. In this volume, Dr. Charcot wrote the introductory of a contribution on the subject, in which he characterizes neurasthenia as Beard's disease, and in which it is recognized as a clinical entity.

Dr. Van Dusen was the first to call attention to the damaging influence of the malaria of the Mississippi valley, upon the central nervous system. Paul, in his work "Differential Diagnosis," recognizes neurasthenia. The doctor could not find that Osler denied the existence of neurasthenia. He made the same mistake as Arndt, in saying, that this term covered a multitude of symptoms, which may be either general, and the expression of derangement of the entire system, or local and limited to certain organs, whence the terms cerebral, spinal, cardiac, or gastric neurasthenia.

The speaker also denied the identity of hysteria and neurasthenia. Hysteria, he said, belonged to the spasmodic neuroses, and he never found in a typical neurasthenic, the existence of stigmata. He had seen neurasthenics who subsequently became hysterics.

DR. BAUDUY said, that the reference to authors made by Dr. Hughes, were from writings twenty-five years old, and claimed that their statements had since been proved incorrect. He quoted from modern authors, such men as Charcot, Gowers, Hammond, Raney, Seguin, Bartholow and Wood. Neither Dr. Hughes, nor any other neurologist had brought before us a dis-

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ease, which had a pathological entity. Osler, the speaker said, writes in his latest edition. that the lines between hysteria and neurasthenia can not be drawn. Charcot refers to neurasthenia, only incidentally, as Beard's disease, and claims that those persons having Beard's disease, are merely suffering from traumatic or mental shock. Gowers speaks of it, in his latest edition, as a hypothetical disease, which cannot be distinguished from general debility and has therefore no claim for neurological classification. Hsmmond, the father of American neurology, ignores it, and Gray failed to find a pathological anatomy for the disease.

The doctor believed, that the disease known as neurasthenia, was merely a nutritive disturbance caused by lymphostasis. It is a disease caused by an increase of leucocytes, retarding osmosis and exosmosis, and consequently interfering with the normal exchange of fluids in the tissues of the body. The three chief causes are wine, women and work.

Dr. Paquin said, that there had not been discovered, a patho- or biological condition as the basis of neurasthenia. In certain conditions the same train of symptoms are produced by leucomaines, urotoxines, etc., and as a result of toxic products, due to the development of bacteria in the alimentary canal during imperfect digestion. He doubted the existence of neurasthenia as a nosological entity, until long after the appearance of neurasthenic symptoms in most instances.

Dr. Love read a paper in discussion of the subject.

Dr. Bremer admitted having written his paper, which precipitated the discussion, in a combative spirit, because so many mistakes are made in the treatment of neurasthenia. He still believed that neurasthenia is a disease, and considered its differentiation one of the greatest triumphs of American neurologists. He had heard Charcot, on several occasions, express his admiration for Beard, and believed, that if the French could afford to admit neurasthenia as a disease, we Americans ought to.

St. Louis Obstetrical and Gynecological Society.

Regular Meeting, Thursday Evening, Nov. 23, 1893.

A Sarcomatous Tumor.

Dr. Mudd.—The specimen that I have here this evening is interesting I think to you because of the fact that it comes from a child, aged about 15 years, who came to me from Illinois. She noticed the growth about a year ago. She came for treatment in September. She menstruated first in January, 1893. In the summer of 1892 she had frequent urination and she noticed an enlargement of the abdomen; she had lost some flesh; had no appetite and was short of breath. She presented the appearance of a healthy child when she came to me; she had a bright color; rosy cheeks and lips; a good appetite, except that she had some difficulty after eating, and suffered from deypnoea. There was no disturbance of the functions of the bowels. She was a well developed girl for her age. She menstruated for the first time in January and has not menstruated since. The tumor when removed was considerably larger than it is now; it was a solid tumor and it could be felt to be connected with the right ovary, and I thought probably it was a sarcomatous tumor. It was a tumor that could be removed somewhat easily. I found upon opening the abdomen that the tumor had ruptured its capsule at the upper border, and had become adherent at the point of rupture with the colon, mesentery and liver. The adhesions were somewhat extensive and very close. I peeled it off as well as I could and curetted the portion of the surface exposed. The edge has become adherent. After cleansing it as well as I could I closed the opening. The child bore the operation very well. The surfaces from which the adhesions were separated bled somewhat freely but the hemorrhage ceased during the process of cleansing the cavity, and I closed the adominal wound completely, and perfectly; did not put in any drainage, but thought it would be secured without it. This adherent surface was high up, well towards the liver. The same afternoon, about 12 hours after the operation, her temperature, which had been going up gradually after the operation, was 105° and her pulse—she had a good pulse after the operation, went up to 150 or 160, and it was evident that she was in bad condition. I suspected there had been oozing into the abdominal cavity, so I opened it up and washed out a lot of bloody serum, with some clots, and put in a glass pelvic tube, through the upper end of the wound. It drained quite freely of serum during the night. The next day I removed the drainage tube and she made a good recovery and went home after a lapse of I think three weeks. I have not yet got the microscopical report and examination as to the chracter of the tumor completed, and I can not say whether it is a sarcoma or carcinoma. It partakes somewhat of the characteristics of both. The age of the child and its rapid growth suggest the idea that it is a sarcoma.

Double Uterus with Ovarian Tumor.

Dr. Frank Glasgow.—The specimen I have here to-night is somewhat unusual, not because it is a multilocular ovarian tumor, but because of its association with a double uterus; there were two distinct uteri. I did not recognize this condition at first. I found an unusual condition and supposed it was a uterus, but I could not tell for certain that it was one at first, but when I explored the pelvis, I found another uterus to the left, not as large as this and much lower. You can see the fallopian tube and the round ligament attached to this. After I got the specimen and cut into it I demonstrated the uterine cavity beyond dispute. There could be no doubt about it. Rather than dissect this off from the tumor,—this mass here, which was very much congested, I removed the whole thing by applying a clamp. The patient was an old woman about

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sixty; she says she has always been healthy until the latter years of her life. This tumor appeared about three years ago. She was in the hospital, not with the tumor, but on account of her eye, she had cataract, and was operated on for cataract. I paid no attention to her, I saw she had a large belly and that was all. My attention was called to it, however, and I examined her and found that she had a large tumor, and her bowels had not moved for a number of days. I took the usual measures to move her bowels without effect, and concluded that the pressure of the tumor was causing the constipation and concluded I had better operate which I did late one afternoon, and this is the condition that I found—this large multilocular ovarian tumor. Before operating I made one digital examination, the day of the operation, and found the cervix very high; I could barely reach it; it was a very odd condition. That misled me as to the character of the tumor, and although I knew it was multilocular, I did not think it was ovarian. The dulness was continuous with the liver dulness—the resonance extending down above the pubes in the left inguinal region—the dulness expanded to the pelvis. I did not make a diagnosis of ovarian tumor. I knew it was a tumor of some kind causing obstruction of the bowel, and that I had better open the abdomen and remove it. I did so and found a multilocular ovarian cyst and withdrew the fluid. There were no adhesions. And then I had to deal with this highly congested, thick pedicle coming up from the pelvis, and also a mass on the lower border which has disappeared. It was simply an infiltration with blood of the broad ligament brought about by a twist. There were five twists in this pedicle. I untwisted the pedicle—that is I untwisted the tumor without noticing the pedicle five times and then of course I could not exactly tell where the twists was, but I supposed from the condition of this uterus that it extended low down. When I found that condition I could not make out what it was at first. There was no fallopian tube on the other side. Then I felt lower down and felt a little mass a little larger than my finger to the left and not connected with this. I felt a small ovary to the left, and so I concluded to remove this uterus with the tumor and I applied a clamp and removed it in this way feeling certain that it was uterine tissue. When I got it out and examined it more closely I made out the relation with these tubes, and made out for certain that it was the uterus. You can see the cavity distinctly.

There is another unusual condition about that, the bowels were pressed down into the pelvis in a mass. I could not feel any adhesions and pulled them up and they straightened themselves out. The old woman is not in good condition, and they didn't apparently straighten themselves out; and her bowels did not move. and I could not get them open for two days afterwards, and the vomiting kept up as it had done before the operation. I had the body elevated and used injections and then pushed this mass of intestines up from the bowels and kept her hips elevated, and one time I put her on her hands and knees and pushed the bowels upwards; and the second day after the operation I got a telephone message that she was just the same. I expected to open the belly at 12 o'clock, but luckily for her, the measures took effect and she had a copious passage about 10 o'clock. She never had any elevation of temperature or a bad sympton except vomiting. There is no discharge, but there is a little opening where the pedicle drew down and sloughed. I examined her on the table afterwards and she is quite sensitive. She has almost no hair on the pubes; the labia majora are quite large and there is considerable fat about them; there are no labia minora; and a very small clitoris and the entrance to the vagina is very deep as it is in a child showing an infantile condition of the external parts. The mons veneris is pronounced and fatty and the vagina is rather small, and it seems to be poorly developed. I could not see the cervix, it was up behind the pubes. Unfortunately I did not give the old woman chloroform and examine her. I intended to do so after, but she struck and I will never have an opportunity to examine her under chloroform. I could not find a trace of a second vagina, and as I say I found no second cervix. I do not think there is a second cervix.

DR. ENGELMANN.—Had she borne any children?

DR. GLASGOW —No, she has never been in a family way; she was married about 12 years and has been a widow 20 years and her menstruation ceased 18 years ago. Her menstrual history was perfectly normal; it began when she was 14 years old and was perfectly normal, lasting three days and gradually ceased; got less and less; she never was in a family way.

DR. LUTZ —What formed the pedicle?

DR. GLASGOW.—The pedicle that I left was the stump of the uterus and cervix.

DR. LUTZ.—Is this tumor ovarian?

DR. GLASGOW.—Yes, and closely connected with the uterus, and the condition of the uterus was the principal thing that led me to remove it; it was so highly congested.

Higher Requirements for Entrance to Medical Colleges.—The Illinois State Board of Health amended the schedule of requirements for admission to medical colleges by taking out of the hands of the college the examination in the elementary branches of education, and requiring either a certificate or diploma from a literary and scientific college or high school or, at least, a second grade teacher's certificate. A curriculum of studies for schools of midwifery was also adopted. A committee was appointed to draft an outline of sanitary work throughout the State, and the Secretary was ordered to issue a "preventive disease" circular on tuberculosis.

The officers were reelected as follows: Dr. William E. Quine, Chicago, President; Dr. J. W. Scott, Springfield, Secretary; and Dr. M. B. Griffith, Springfield, Treasurer. The Governor has reappointed Dr Julius Kohl of Belleville, a member of the Board.

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ABSTRACTS

MEDICINE.

Rubidium Iodide in Skin Disease.—Dr. Leo Leistikow, of Hamburg, who at the suggestion of Unna, made trials with rubidium iodide at his clinic, reports (*Monat. f. prac. Dermat.; Med and Surg. Rep.*) as follows:

In all cases a five per cent aqueous solution of rubidium iodide was used, three tablespoonful of which were given daily.

Case 1.—Mrs. S., age 45 years, suffers from two specific ulcers of the hard palate. The ulcers were first cauterized with a ten per cent solution of chromic acid for three days. After this rubidium iodide was administered internally. Under this treatment the ulcers healed completely in two weeks.

Case 2.—Mr. M., age 30 years, has gumma which is located in the sulcus retroglandularis. Restoration takes place by external application of a gutta percha plaster mull containing mercury and carbolic acid, and with a 3 weeks' internal treatment of rubidium iodide.

Case 3.—Mrs. A. I., age 55 years, is affected with an extensive ulcerating syphilide of the right lower thigh, accompanied by varices of the veins. The treatment consists of bandaging the leg with zinc oxide-ichthyol-glue, and prescribing rubidium iodide internally. Restoration results within 14 days.

Case 4.—Mrs. A. H., age 40 years, suffers from gummatous periostitis of the frontal bone, and besides presents an insufficiency of the bicuspid value. Rubidium iodide effects a cure within two weeks without influencing the action of the heart.

Case 5.—Mr. R., age 20 years, shows the first general symptoms of secondary lues; besides specific angina and universal papulous syphilides, extremely violent headaches prevailed. An eight days' inunction-treatment makes the secondary eruptions disappear, but without relieving the headache. Internal treatment with rubidium iodide in double doses for three days caused the headache to disappear entirely.

Case 6.—Mr. M., age 30 years, who is suffering from secondary syphilis, had just undergone an inunction-treatment and desires to take iodine. He is given rubidium iodide for two days, but owing to violent conjunctival cattarrh, this remedy had to be discontinued.

Case 7.—Mr. J., age 44 years, is afflicted with acute polyarthritis of gonorrhoic origin. By a two weeks' treatment with rubidium iodide he is entirely cured. Appearance of a iododerma pustulosum.

Case 8.—Mr. M., age 60 years, presents a gumma of the tongue. At first potassium iodide is administered and effects considerable shrinkage, but after eight days produces a violent catarrh of the upper respirarory tract. Potassium iodide is therefore discontinued and substituted by rubidium iodide. This change of treatment causes the symptoms of catarrh to diminish, and after four weeks' use of the rubidium iodide the gumma is healed.

It is especially important to note, that in the one case of syphilis complicated with valvular disease, the heart's action was not in the least influnced by the rubidium iodide. Altogether the rubidium salts have no toxic effect upon the heart like the posassium salts. It is advisable, therefore, to employ rubidium iodide in all cases where the use of potassium iodide is contra-indicated on account of its dangerous effect upon the heart. The symptoms of iodism (the iododerma and the catarrh of the mucous membranes) are not excluded by the use of rubidium iodide. On the other hand, whenever iodism follows the use of iodide potassium, these unpleasent accompanying effects may be avoided by the employment of rubidium iodide. Gastric disturbances were never observed. The taste of the rubidium salt is not as disagreeable as that of potassium iodide.

The Therapeutic Uses of Organic Extracts.—Althaus (*Lancet; Med. News*) reported some exceedingly interesting observations upon the therapeutic employment of glycerin extracts of the brain and spinal cord of heathly young aninals, which he designates cerebrin alpha and myelin alpha respectively. Five minims were found to be a good initial dose for hypodermatic injection, preferably into the muscles, and given on alternate day of oftener. No essential difference was observed between the action of the two extracts. The length of treatment was variable. The results were, as a rule encouraging. The physiologic effects in healthy persons consisted chiefly of feelings of increased nervous energy and buoyancy and greater capacity for physical and intellectual exertion without much subsequent fatigue. No appreciable change in temperature, pulse, respiration, and coarse muscular force was observed, although the appetite seemed increased and the action of the bowels more free. In some cases the amount of urea excreted was increased. The principal diseases in the treatment of which the extracts were employed were the chronic degenerations of the spinal cord, various forms of hemiplegia, paralysis agitans, and epilepsy. They were also used in a case of astasia-abasia, in one of grave hysteria, for the disabilities attending old age, and during convalescense from acute diseases. The general result arrived at was that neither extract is a specific for disease of the nervous system. In cases of epilepsy, paralysis agitans, and tremor, as well as in the usual forms of hemipleiga, they were found quite useless. On the other hand, the conviction is expressed that they constitute a nervine tonic of considerable efficacy in certain maladies and conditions mainly characterized by loss of nerve-power, and particularly as an adjuvant to other remedies. In conditions habitually looked upon as purely func

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tional it is believed that good results may be obtained from the injections without any other active treatment, while in maladies in which the organic structure of tissue is damaged they seemed to act chiefly as adjuvants and intensifiers of other treatment. Of fourteen cases of neurasthenia six were successfully treated with injections alone; six others improved under combined treatment; and in two aggravated cases there was no change for the better. Of fourteen cases of posterior spinal sclerosis the condition was improved in ten. Of four cases of spastic paralysis three greatly improved. In three cases of progressive muscular dystrophy in adults decided benefit ensued. In a few cases the treatment disagreed, constitutionally or locally. It is admitted that at the date of reporting sufficient time had not elapsed to permit an affirmation as to the permanency of the results obtained. The conclusion is expressed that the action of the extracts is twofold. In the first place they may be looked upon as a highly specialized pabulum of nervous matter by reason of the presence of protagon, cerebrin, and lecithin, as determined by chemic analysis; and in the second place they appear to act as antitoxins, as the phosphorized bodies split up under the influence of the alkalinity of the blood into glycerophosphoric acid and cholin, which have the power of stimulating intra-cellular oxidation and the elimination of leukomains.

Seborrheic Eczema Produced by Borax.—At a meeting of the Biological Society M. Fere said that the prolonged use of borax advised in the treatment of epilepsy determines attacks of seborrheic eczema, which begins upon the lateral parts of the trunk, extends to the limbs, and finally to the face and hairy scalp. (*La Med. Moderne; Med. Bull*). The progress of the affection is connected with the presence, in more or less abundance, of a fatty secretion upon the surface of the skin.

Arnozan has, in fact, proven that the quantity of fatty matter found upon the surface is, upon the face, at a maximum amount in the groove extending from the nose to the chin. The upper parts of the trunk are next attacked. Upon the lateral parts very little is found, and none at all below the umbilicus. Borax causes a disappearance of the fatty secretion of the skin, and this suppression begins at first upon the parts the least rich in fatty matter, and those in which fat abounds are the last attacks. This progress is identical with that demonstrated by Arloing. The method which has been employed is somewhat rudimentary, but very ingenious. He touches the skin with a glass rod, which he then plunges into a glassful of water, upon the surface of which he had placed small pieces of camphor. These whirl around, but their movements are arrested if the rod carries the least trace of fat. The greater the amount of fat upon the rod, the more rapid and complete is the arrest of motion.

NOTES AND ITEMS

A Bill to Remove Certain Disabilities of the Late Acting Assistant Surgeons.—Mr. Richards introduced the following:

WHEREAS, Before, during, and since the war of eighteen hundred and sixty-one to eighteen hundred and sixty-five, but chiefly during the war, private physicians were employed as medical officers, serving under the orders of their superior officers as such, agreeably to Army regulations, in the armies of the United States, in addition to the commissioned medical staff, because the number of the latter was not sufficient for the necessities of the service. This class of officers was known officially as acting assistant surgeons, because they performed exactly the same duties, and were subject to the same control as commissioned medical officers. These acting assistant surgeons were employed under contract made in accordance with paragraph twelve hundred and sixty-eight, Revised Regulations of the United States Army, eighteen hundred and sixty-one, and paragraphs thirteen hundred and four and seventy-one, Appendix B, Revised Regulations, eighteen hundred and sixty-three, and were obliged to remain in the service of the United States for a stated time. Among these officers were many of the emient physicians and surgeons of the United States. Some of the duties performed by acting assistant surgeons were as follows:

They were in charge and command of United States military hospitals, known as general, division, field, and post hospitals; they had charge and command of United States military hospitals for the care of contagious diseases; they were in command or in charge of hospital trains, hospital boats, and ambulance trains, and were executive officers of United States general hospitals; they acted as brigade and regimental surgeons, and at least one acting assistant surgeon acted as medical director of a department for nearly a year; they were responsible for hospital funds and property, and also post funds; they served on courts-martial, which the Articles of War require shall be composed of officers, and also on boards of survey, in camp, field, and garrison, on overland expeditions, and in Indian wars; they faced death and endured hardships like commissioned officers, and it is known that nearly one hundred and fifty died in the military service of the United States; and

WHEREAS, These acting assistant surgeons were allowed fuel, rations, quarters, and transportation in kind, and to purchase rations from the commissary, and traveling expenses the same as commissioned medical officers with rank of first lieutanant, and were accorded, by order of the War Department, the same protection in their position, the same respectful subordinate conduct, and the same military courtesy from enlisted men as if they were commissioned officers, because they were placed in the position of commissioned officers so far as

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related to their duties. Many of them were also required to wear the uniform of an assistant surgeon. Acting assistant surgeons who were disabled by reason of disease contracted or injury received in the military service have been granted pensions under a law which assimilates them to the rank of first lieutanant of the military or Marine Corps; and

WHEREAS, Because they were not commissioned as officers, but were employed by contract as such, they are denied admission to military organizations like the Loyal Legion and the Grand Army of the Republic; and to relieve this unjust discrimination, and to give a proper recognition to their patriotism, duties, responsibilities, services, hardships, and exposures, they ought to be entitled to receive the rank for which they are allowed pensions and which will relieve them from these disadvantages. The appended bill is offered for this purpose. It involves no expense to the United States Government and no change in the relative rank of officers of the medical corps of the United States Army who have been or are now in the service of the United States; Therefore,

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That private physicians who were employed as medical officers in the armies of the United States for a period of not less than three months, in accordance with paragraph twelve hundred and sixty-eight of the Revised Regulations, United States Army, eighteen hundred and sixty-one, and paragraphs thirteen hundred and four and seventy-one, Appendix B, Revised Regulations, eighteen hundred and sixty three, and who were known officially as acting assistant surgeon of the United States Army, and whose services were honorably terminated, shall be commissioned by the President of the United States as acting assistant surgeons of the United States Army; and the date of employment as acting assistant surgeons to be the date of commission and muster into service, and the date of the honorable termination of service as acting assistant surgeons to be the date of discharge or muster out of service:

Provided, That no pay or allowance shall be made to any such acting assistant surgeon by virtue of this act; and this act shall not effect the rank, pay, or emoluments of commissioned medical officers of the United States Army.

[We have been requested by the Association of Acting Assistant Surgeons to inform our readers who have been Acting Assistant Surgeons or are in sympathy with this movement, to communicate promptly with members of Congress and others who are in a position to give material assistance. Editor.]

Patent and Quack Medicines.—The Edinburgh Society have issued as the seventh in a series of health lectures for popular use some candid remarks by Dr. Joseph Tillie upon patent and quack medicines (*Lancet*). We are aware as certainly is Dr. Tillie, that unfortunately no amount of writing against quackery will abolish the evil; the very effort to do so is comparable to (and has been compared to) an attempt to wipe up the the sea with a hand-mop; but such a lecture as Dr. Tillie's may well have some practical outcome, for it is arranged on intelligible lines, and without declamation or learned protest or any appearence of partisan heat, quietly demonstrates the adsurdity of the pretensions put forward for their wares by the vendors of quack remedies. The reasons urged by the vendors in suppost of their claims to public attention may be summarised roughly thus:

1. The nostrum is a specific for all sorts of disease—difficulties of diagnosis being thus abolished, for no matter what the disorder the remedy is equally efficacious.

2. It is under Government, or even quasi-royal protection, this being proved by the Government stamp that is affixed to each bottle or box bearing the Royal arms.

3. Its curative action will be certain, an important detail which is vouched for by much thrilling and greteful correspondence from quondam sufferers.

4. Therefore diseases which have baffled many medical men will yield to its exhibition, exorbitant fees being thus avoided.

Simplicity, economy, patriotism, and loyalty, surely among the most useful civic virtues, are, it will be seen, all appealed to. Special remedies make special demands upon the attention of particular classes of the community and occasionally an advertisement will be particularly wicked or disgusting; but we have only intended to give a generalization of the more usually vaunted merits of proprietary remedies, so that we may illustrate Dr. Tille's simple methods of dealing with them. All the regulation boasts save the second are proved to be idle by a careful chemical or microscopical examination of the different compounds. These are then found to consist of perfectly well-known ingredients, well known not to possess the wonderful powers ascribed to them by the proprietor of the various elixirs in which they occur. Aloes is the most constant constituent and it given in all sorts of doses, from the the entirely inefficacious up to a point where it must certainly prove an over-active agent in many conditions. But all the other ingredients are as perfectly familiar to every doctor as aloes is, and their limitations equally recognized. Thus the sweepingly benignant influence, the certain cure, and the suggestion that the sufferer in taking the remedy is swallowing the mystical product of a more subtle chemistry or of a more accurate pharmacy than the medical practitioner has time or wit to employ, all these are instantly refuted by the analyses of the medicine. With regard to the Government stamp, Dr. Tillie points out that its presence simply implies the payment of a tax—a tax on the credulity of our weaker brethren that more that sixty years ago we suggested might well be removed—and that the stamps are sold, exactly as postage stamps are sold, by officials who, so far from

vouching for the contents of the packets to which they are affixed, know no more of those contents than a postman knows of the inside of a stamped letter. These things are very familiar to most reader of the *Lancet*; but the Edinburg Health Society pamphlets are directly addresed to the people, whose ignorance exposes them to the wiles of the unscrupulous advertising quack. Dr. Tillie has treated his subject exceedingly well from the popular standpoint, and we hope that his pamphlet will prove a revelation to many deluded sufferers and their friends.

A Valuable Drug in Treatment of Winter Cough.—Many are the single agents employed in the treatment of that persistent bronchial ailment known as "winter cough," and divers are the combinations made to suit each individual case. Agents proposed and lauded as "specifics" in this disease have signally failed to maintain the title. Among the new remedies named, but not brought forward as a specific at all, is the *Eugenia Chequen*, or Chekan, a native Chilian drug. For a complete description of the agent, botanically and therapeutically, we refer our readers to the Pharmacology of the Newer Materia Medica, and a brochure issued by Parke, Davis & Co., Detroit. That it is a valuable addition to our list of agents for the treatment of bronchitis and its allied disorders, is evident to the writer. It has made a good record so far. It is worthy of a careful investigation and trial. Dr. Wm. Murrell, of Royal Hospital for Diseases of Chest, London, basing his opinion on notes of fifteen cases of chronic bronchitis in which he employed Chekan, says: "In all cases the patient obtained some benfit, and in most intances the relief was very marked." The Fluid Extract has a pleasant balsamic oder and taste. It is highly resinous, hence not miscible with water. It mixes nicely with glycerin and syrups, in which it should be administered. We advise a testing of its merits.—*San. Med.*

Proposed Legislation Concerning Capital Punishment in Ohio.—The following bill is to be introduced into the Ohio Legishature during the present session:

"Be it enacted by the General Assembly of the State of Ohio that Sections 7338, 7339, and 7341 of the Revised Statutes of Ohio be amended so as to read as follows:

Section 7338 amended to read:

1. That all persons sentenced to death by any court having jurisdiction in the State of Ohio shall be held as subjects for experimental research; that such exeriments shall be conducted in the interest of science and society, and shall be regulated by approved rules of humane treatment to avoid all unnecessary pain; that in the preparation for such experiments, where pain would be occasioned, anesthetics shall be administered to the extent of complete insensibility to pain, and during the progress of experiment narcoties shall be judiciously used to allay any pain, and the condemned person shall not be maltreated in any way; that after the conclusion of such experiments the criminal shall be again anesthetized and put to death while in deep sleep and entirely insensible to pain; that the executioner shall be an expert physiologist duly appointed and authorized by the State, and that such appointments to execute and conduct such experiments shall be vested in the Governor, and shall cousist of one executioner and five assistant physiologists, with a like number of deputies, who shall hold their office for the term of good behavior, except upon proof of incompetency; and no one so appointed shall be removed without sufficient cause, which shall be left to the discretion of the Governor, and that all appointments to fill vacancies caused by death, resigation, or removal shall be made as prescribed in the foregoing.

2. All executions of the death penalty according to the provisions of this bill shall take place within a building provided for that purpose and so constructed as to safely and comfortably lodge all capital criminalso until the completion of the execution; that such criminals shall be in the costody of a warden or deputy warden and board of managers, who shall provide for their safe and comfortable keeping; that the execution of the sentence shall commence on the day fixed by the judge passing the sentence, unless a suspension of execution be ordered by the Supreme Court or two judges thereof.

"Section 7339 amended to read: When a person is sentenced to death, all writs for the execution of the death penalty shall be directed to the sheriff by the court issuing the same and the sheriff of the county wherein the prisoner has been convicted and sentenced shall, within the next thirty days thereafter, in as private and secure a manner as is possible to be done, convey the prisoner to the institute provided for capital criminals, where the said prisoner shall be received by the warden and securley kept; and the sheriff shall receive for conducting the prisoner sentenced to death to the institute for capital criminals the same fees and mileage that is [*sic*] provided by law in other cases, when duly approved by the warden of the institute.

"Section 7341 amended to read: That no one shall be present at experiments and executions except the warden or deputy warden in charge of the prisoner, the executioner, assistants, and deputies, and those who have duly qualified themselves to comprehend the experimental work; that such qualifications shall be determined by a board of examiners, who shall issue a certificate which shall admit the holder to witness the experments and executions; that at the conclusion of each execution a written report shall be required of the body of physiologists which shall contain a correct account of the result of the experiment and execution, and that such a report shall be made within thirty days from the infliction of death, and recorded in the archives of the institute and of which a certified copy, together with the warrant, shall be forwarded to the clerk of the county from

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which the prisoner was sentenced, who shall record the warrant and returns the record of the case.

"That Section 7338 as amended May 12, 1886, Section 7339 as amended April 29, 1885, Section 7341 as amended March 21, 1887, and Section 7343 as amended May 12 1886, of the Revised Statutes of Ohio be hereby repealed."

After an Attack of Grip the patients finds himself in a state of extreme weakness and prostration from which condition he is tediously brought to his former good health. Remedies which stimulate his exhausted nerves too vigorously do so at the expense of his general condition. Then comes the relapse. Syr. Hypophos. Comp. McArthur conveys to the tissues the revivifying and vitalizing agent phosphorous in its most exidizable and assimilable form. Thus the true vitality of nerve structure is restored by renewing the nutrition of the tissues themselves.

George Kiel, 1715 Willington street, Philadelphia, announces the early publication (third edition), of the "Medical and Dental Register-Directory and Intelligencer," for the States of Pennsylvania, New York, New Jersey, Maryland and Delaware. It will present not only a complete list of all medical and dental practitioners in the States named, with place and date of graduation, but also lists of professional educational institutions, hospitals, societies, etc., and will be of much practical value to all members of these professions.

Dr. Paul Paquin.—Accurate microscopical, chemical and bacteriological analyses made promptly for physicians. Investigations limited to sputum, urine, and stomach contents for the diagnosis of the disease of the lungs, kidneys and stomach. Sterilized labeled jars and vials, and printed directions as to the best modes of gathering and submitting specimens, furnished on demand. Specimens improperly gathered are subject to contamination and will not always be accepted for analysis. They lead to long and unreliable labors.

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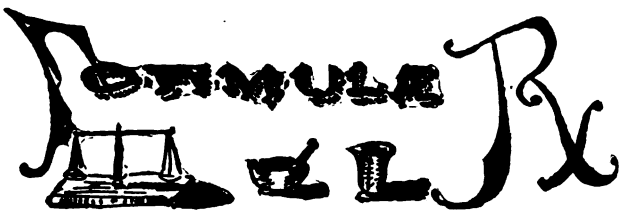
Hiccough.

℞ Hydrarg. chlorat. mit., - - - - - - gr.j.
Bismuth. subnitr.,
Sacch. lact., - - - - - - - aa ʒss.
M. F. pulv. Divide in dos. No. 10.
Sig. One powder every hour.



Delirium Tremens.

℞ Neurosine, - - - - - - - - - ʒiv.
Chloral hydrat., - - - - - - - - - ʒj.
M.
Sig. Tablespoonful as required.

Impotence.

℞ Tinct. vanillæ,
Tinct. strychni,
Tinct. cantharidis, - - - - - - aa ℥ij.
M.
Sig. Ten drops three times a day.

Marasmus.

℞ Syrup. ferri iodid., - - - - - - - ʒij.
Maltini, - - - - - - - - - ℥vj.
M.
Sig. Teaspoonful three times a day.

Oxaluria.

℞ Acid. muriat. dil., - - - - - - - ʒij.
Tritica (S. & H.), - - - - - - ℥vj.
M.
Sig. Tablespoonful three times a day.

Uremia.

℞ Acid benzoic., - - - - - - - - ʒj.
Fol. digital. pulv., - - - - - - gr.vj.
Sach. alb., - - - - - - - - - ʒss.
M. F. pulv. Divide in dos. No. vj.
Sig. One powder every three hours.

Synovitis.

℞ Tinct. iodi, - - - - - - - - - ℥ʒj.
Guaiacol, - - - - - - - - - ℥ʒj.
M.
Sig. Paint joint several times a day.

Grippe.

℞ Caffacemon, - - - - - - - - - ʒj.
Brandy, - - - - - - - - - ℥ʒj.
Syr. cort. aurant., - - - - - - ℥ʒiij.
M.
Sig. Teaspoonful every three hours.

Urticaria.

℞ Magnes. sulphat., - - - - - - - ʒj.
Ferr. sulphat., - - - - - - - ʒss.
Acid. sulphuric. dil., - - - - - - ʒj.
Aq. menth. pip., - - - - - - - ʒiij.
Syr. simpl., - - - - - - - - - ʒj.
M.
Sig. Tablespoonful in a tumblerful of water in the morning.

℞ Sennine, - - - - - - - - - - ʒj.
Aq. lauroccrasi, - - - - - - - ℥ʒij.
M.
Sig. Use locally.

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ORIGINAL ARTICLES

Mechanico-Therapeutics by Means of Apparatus.

BY E. H. M'CULLERS, A.M. M D.

Medical Director of the Mechanico-Therapeutic and Orthopedic Zander Institute, St. Louis.

Read before the St. Louis Medical Society, February 24, 1894.

GENTLEMEN.—It shall be my pleasure to speak to you to night upon the subject of Mechanico-Therapeutics, by Means of Apparatus, which is in its infancy in America to-day and a basis for which has been wanting, until the last year or two, upon which to carry on a fruitful and intelligent discussion. Early in the world's history, prophylactic and therapeutic value of mechanical and manual treatment was recognized, and, as the tendency of modern therapeutics is to cure disease by the application of the laws of hygiene, I feel sure that the learned medical profession of this Society will sustain and approve the treatment.

Manual treatment for disease has, to a certain extent, existed since the dawn of creation. The art of manipulation was practiced by man long before Nature yielded up her hidden secrets in medicine. In Sweden, at the present time, certain manipulations are used among the peasants for cramps, swellings, etc. The Swedes seem never to have lost the art. The Chinese possessed a perfect system of gymnastics 3000 years before the Christian era. They maintained that gymnastics, by preventing stagnation, produced an even and harmonious flow of the fluids in the human body, which is necessary to health. The Egyptian priests used some manipulation in the form of kneading and friction, for the alleviation of pain in rheumatism, neuralgia and swellings. The Hindoos passessed only a limited knowledge and did not exercise it to any great extent. Even the Persians made use of a few movements for different affections. The Greeks were the first to recognize and establish gymnastic institutions, a fact worthy of recommendation.

Manual treatment was prescribed by the ancient philosophers and physicians. Plato divided it into active and passive movements, and especially recommended the latter.

The Romans were imitators of the Greeks to a certain extent, yet the manual method was more extensively practised in Rome under the emperors than it had hitherto been by any nation. In the fifteenth and sixteenth centuries, well known physicians recommended the movements and wished to combine them with the study of medicine, but in the latter part of the eighteenth century, the science of Mechanico-Therapeutics had its birth with the advent of the gifted Swedish layman, P. H. Ling.

During the middle of the present century Dr. Gustaf Zander, brought to the notice of the medical profession the wonderful results achieved in the treatment of disease by the application of mechanico-therapeutics. Recognizing the impossibility of executing these movements with exactitude and regularity, when the requisite conditions were dependent upon the mood of the patient or operator, he invented certain mechanical apparatus by means of which the prescribed movements could be executed with perfect rhythm and exact system. Dr. Zander speaks of his invention in these words: "I conceived of my task as follows: If a mechanical apparatus could be so arranged, that a certain group of muscles must be used in order to set it in motion; if this apparatus could be provided with a balance weight which could be increased or diminished at will; and finally, if the resistance could be so managed as to increase or decrease gradually, in harmony with the laws by which muscular power works; the problem would be solved and a therapeutic agency gained which would not only supplant the gymnast, but readily overcome even those difficulties with which he had struggled in vain."

According to this plan, experimental apparatus for the most important exercises were prepared, and, although the first apparatus were very imperfect, I was not deceived in my hopes. I could individualize the exercises perfectly for every pupil, and, after a few attempts, I could determine precisely with how vigorous exercises each one should begin, slowly, almost imperceptibly, increasing the resistance. The uniformity and steadiness with which the powers increased in this way was truly astonishing, even the feeblest children showed in the briefest time, progress which could be weighed by the pound, to say nothing of the increase in appetite and keener joy in life."

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With the aid of the cuts of a few of the machines, I shall endeavor to explain the mode of mechanical treatment.

J. I.—Arm friction is produced by two straps moving up and down, and the pressure is regulated by means of a lever and weight attached. The patient sits on an adjustable chair, with arm horizontal, and grasps a movable handle. The arm is moved foward and backward and so turned that the straps press upon the whole surface, promoting circulation and warmth.

J. VI.—Circular abdomen rolling. This apparatus consists of two light padded rollers with adjustable screws on levers,so arranged as to move up and down over the stomach. There is a support for the back possessing two adjustable wheels. The body is forced forward when the wheel on the right is turned, so that the rollers press against the stomach and held there by a catch on the left side, when the machine is set in motion. They may be held at any pressure desired, causing no painful or unpleasant sensations to the patient. The mechanism is so arranged that its axis is directly in front of the navel. The sensation is pleasing and satisfactory to the most feeble and delicate person. Circulation in the abdominal walls and intestines is promoted and contraction of the intestinal muscles increased. The rollers pass from right to left, following the course of the large intestine and recommended as the treatment, par excellence, for constipation. This however is in perfect harmony with what Dr. L. Bremer said some weeks ago in his paper on Beard's disease. "No medicine in the pharmacopeia is worthy of a trial for constipation," said he, and recommended the use of a ball rolled upon the stomach by one's own exertion. Experience has taught me not to rely too much on individual effort, when there exists a state of "chronic inertia." By employing the motor power, the movement is entirely passive, and can be given with the greatest exactness and precision.

G. I.—Percussion, chopping or hacking. This movement is accomplished by two elastic steel hammers, nicely covered, and set in rapid oscillating motion by motor power. The force of the hammers is regulated by pressure of the body against them, the patient standing or sitting. This apparatus can be made to move up and down the surface of the body, percussing the trunk, upper and lower limbs. The effect is somewhat similar to vibration, being less superficial and more irritating to the soft structures covering a bone.

F. I.—Vibration. The parts of this apparatus consist of an upholstered beam and a vertical pole, set in motion by motor power, The beam vibrates strongly at one end and diminishes in force till the zero point is reached. The vertical pole is about five feet high, and a movable horizontal bar, with numerous handles plates and balls, is attached to it. This horizontal bar has a graduated scale ranging from zero to ten, showing the exact amount of vibration given to each patient. Numbered among the appliances that are attached to it, are two round pads or cushions (large and small size) used for vibrating the shoulder joint, front, back and side, shoulder blades, hips and sacrum. Also the chest, pit of stomach, transverse colon, small intestine, and right and left hypogastrium. Hip nerve vibration is accomplished by the small oral plate pressed against the bed of muscles between the large trochanter and os coccyx. Running vibration of the arms and thigh is performed by means of a curved padded iron with the concavity outward. The whole arm vibration is accomplished by grasping, with both hands, the two horizontal handles which relaxes the muscles of the arm. A soft rubber ball is used for the face when there is a sensitive spot to be treated. Nervous frontal headache is greatly benefitted by this application, a vibratory object brought in contact with the soft tissues of the body, exercises on these an effect of rapidly alternating expansion and pressure. This accelerates the circulation in the capillaries and lymph vessels, increases the reabsorption and causes the morbid infiltrations of the tissues to disappear.

F. II.—Vibration of the whole body. This apparatus is made of a wooden frame, shaped somewhat similar to the body of a horse, upon which is placed a lady's or gentleman's saddle and, by pressing the lever, it is made to vibrate. The degree of vibratory motion is regulated by a screw on the wheel numbering from zero to eight. This mode of vibration is indeed soothing and pleasant, producing a slight contraction of the arterial system.

E. VI.—Chest expansion. The last, but by no means the least either in size or importance, of the machines I have described. This apparatus has a substantial frame for the great work it has to perform. The two horizontal levers attached to the frame work, have each a shoulder support. A cushion with an adjustable coil spring presses, against the back. An eccentric wheel moves the levers, to which weights are attached, and this movement is transmitted to the horizontal levers, which extend the trunk and expand the chest by drawing the shoulders upward and backward. The graduated scale regulates the extension of the trunk and the expansion of the chest. The chair is also adjustable by turning a wheel. When the movement begins and the chest is expanding the patient is instructed to inhale. The muscles and tendons of the chest and trunk are extended, the lung cavity is greatly increased, and respiration is made easy. In persons of narrow chests and stooping shoulders the treatment is very beneficial, expanding the chest so that the muscles which draw up the ribs are more easily called into activity and better developed. "Experience" said Dr. Zander, "having shown that regular muscular exercises made more strenuously, not only develop and strengthen the muscles, but promote the removal of pathological changes in the tissues, give tone to the nervous system, vitalize thecirculation of the blood and lymph and the activity of many organs. It is natural that such exercises should be included among therapeutic agents. For this purpose there was, however, requisite the power to execute

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the exercises according to the physiological laws and to modify their action, like that of the other therapeutic agents, according to the needs of each individual case. Since 1857, when I began to devote my attention to mechanical treatment, I have endeavored to meet these requirements by means of mechanical method and have shown, in divers publications, that they could be com plied with, only by producing the resistance which the muscles are to overcome, by means of mechanical apparatus and with the aid of the lever. By the use of the lever it is assured: First, that the resistance is arranged in exactest harmony with the physiological and mechanical laws of the actions of the muscles; and second, that the graduating of the dose of the therapeutic agent can be accomplished in the most perfect manner."

Dr. William Hunt, of Philadelphia, surgeon to the Pennsylvania hospital, has published a work upon the mechanico-therapeutic Zander institute at Baden-Baden, after returning from a sojourn at that institution and warmly advocated Dr. Zander's method. Dr. Weir Mitchell, of Philadelphia, and Dr. Isaac Adler, of New York, have both been prompt to recognize the great importance of mechanical treatment and massage, and early incorporated them among their therapeutic re sources. Mechanico-therapeutics embrace the treatment, under proper medical supervision, of those suffer ing from chronic diseases, the deformed, the convalescent, the feeble, the aged, and individuals engaged in sedentary pursuits, and include active and passive movements, mechanical operations, corrective pressure and manual massage. The aim in mechanical treatment is to secure a wholesome vital activity and harmonious development of the muscular system, but this can be obtained only through exercise. The exercise should be regulated, in all cases, in accordance with the strength of the patient, which can only be done by means of the apparatus, devised by Dr. Zander. The exercise obtained in ordinary gymnastic institutions, particularly in the case of those suffering with cardiac or respiratory disorders, frequently does more harm than good, the efforts made being too severe and the fatigue incurred often disproportionate to the amount of exertion put forth. For patients suffering with heart affections, mechanical treatment is of the greatest importance. Dr. Zander, who has treated hundreds of patients suffering from heart disease, at the Royal Central Insti tute at Stockholm, says: "For certain affections, those of the heart for instance, treatment remains a per manent necessity, at least, for the winter season. Truly to be pitied is every patient who is deprived of an op portunity to avail himself of it. The beneficient effect of regular, slight but manifold exercises, upon diseases of the heart, is surprising. Some of these can, when not too far advanced, be wholly overcome, others can be checked in their development, and all can be modified in their symptoms. I have had patients in the last stages of suffering from valvular defects. They knew that a cure was impossible, but were happy to go on with the exercise, for the sake of relief which the treatment afforded them, as long as their failing strength permitted them to visit the institute. No prophylactic or therapeutic measure known, can surpass the effects of mechanical treatment upon consumptives or those exhibiting a phthisical diathesis. The exercises prescribed in such cases, strengthen and develop the respiratory muscles to a marvelous degree and greatly increase the capacity, as well as the nutrition, of the lungs, as is easily demonstrated by measuring the circumference of the chest. More than one half of mankind drag out a miserable existence because the constant craving of the muscular system is not recognized and satisfied. Women especially are neglectful in this matter of exercise. Many women regard bodily exercise as entirely superfluous and are apt, unless compelled by stern necessity to bestir themselves, to utterly ignore the necessity for exercise and so having failed to cultivate and develop their normal powers of resistance, they possess but little reserve store of vitality, and become chronic invalids upon the slightest provocation. Within the past few years, a few women have joined physical culture clubs; but there are many women, particularly those suffering from chronic ovaritis, endometritis, cystitis, menstrual irregularities, etc., who, while much in need of the curative effects of exercise, are utterly unable so participate in exertions calling for great muscular strength. To patients of this character mechanico-therapeutics afford all the beneficent effects of exercise, without entailing that fatigue and possible injury, ordinarily incurred in seeking physical development without scientific rationale. A number of well selected and carefully executed muscular exercises are of great benefit during pregnancy, not only for their influence upon the general health during gestation, but because experience has shown that such preparation places the system in the most favorable condition for confinement, and subsequent recovery takes place much more rapidly than it otherwise would.

Mechanico therapeutics are eminently suitable for children, particularly those who are too delicate to participate in the violent exertions characteristic of robust childhood, and to those suffering from curvatures of the spine and deformities of the limbs.

Among the diseases in which mechanical treatment has been applied successfully, are:

1. Affections of the motor organs, of muscles and joints from overexertion and disuse, sprains, rheumatism, peripheral paralysis, writer's and pianist's cramp, scoliosis and various distortious and deformities.

2. Nervous disorders; nervousness, neurasthenia, insomnia, hysteria, neuralgia and chorea.

3. Respiratory affections, emphysema, chronic bronchitis, asthma.

4. Affections of the heart; simple weakness, functional disorders, incipient fatty degeneration, hypertrophy, and even in serious valvular defects, temparary relief is obtained and the symptoms much ameliorated.

5. Diseases of the digestive system, chronic gastric

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and intestinal catarrh, habitual constipation, hemorrhoidal troubles, and circulatary disturbances of the liver.

6. Constitutional dissorders, chlorosis, anemia, obesity and diabetes.

7. Diseases of women, amenorrhea, dysmenorrhea, menorrhagia, chronic metritis, flexions and prolapsus of the uterus.

Learned physicians are turning their minds to the new curative methods at their servise, methods representing great and important factors in the medical seience of the future. They work perhaps as much for preventing the evil, as for suppressing morbid symptoms which have already appeared. They have been called physical remedies, for they dispose of the powers of nature and use them as obedient tools at their service. It is only after many attempts, that these apparatuses have obtained the perfection of form which allows their use in the service of science and of suffering humanity for developing and maintaining the vigor of the body, as well as for suppressing numerous inward diseases, states of sufferings, debilities and infirmities.

The astonishing success of the Zander treatment has gradually triumphed over the prejudice which generally opposes the introduction of the unknown. The Zander method of mechanico therapeutics is a popularization of science, and all who accept it profit in an equal degree from its beneficial power. The treatment in no way comflicts with the ordinary medical treatment but, on the contrary, forms a very beneficial adjunct to the physicians therapeutical armamentarium, and, very often and very properly, is used in conjunction with regular medical treatment.

Enlarged Supra Clavicular Glands as a Sign of Visceral Cancer.—At a meeting of the Medical Society of the Hospitals, Paris; M. Comby said that he had attended a woman, 57 years of age, attacked with right-sided hemorrhagic pleurisy (*La. Trib. Med.; Med. Bull.*). The presence of enlarged supra-clavicular and axillary glands justified the diagnosis of cancerous pleurisy, and, together with the cachectic condition, the prognosis of a speedy death. In fact, the patient soon died, but, unfortunately, an autopsy could not be ob tained.

M. Widal remarked that, at the autopsy of a woman who died from cancer of the stomach, he had found behind the sterno-mastoid a small gland, which was re cognized as cancerous when examined under the micro scope. During life, although he explored carefully, he had been unable to detect any swelling. At the autopsy there was detected no trace of lymphangitis by which the route of propagation might be traced. The glands above the clavicle must, therefore, more often than is usually supposed, be contaminated in visceral cancers, since they may be effected before they are appreciably enlarged.

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and as a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

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Doctors and Hard Times.

In these times of universal calamity-howling it may, perhaps, seem superfluous to burden a medical journal with the statement that doctors too suffer from an unprecedented business depression. But since there is a satisfaction in knowing that there is someone who shares your misfortune, and that comparison of your own pain and discomfort acts like a balm to your bruised feelings, we desire to simply register some facts bearing on the financial misery of our times. *A priori* one should think that doctors constitute such a necessity in a community, that their business is very little, if any, affected by monetary stringencies, at any rate, so far as the volume of business is concerned.

This, however, is not the case. With the general contraction of earning power and shrinkage of values in general, there has also been observed an astonishing diminution in the number of patients. There are perhaps, as many sick people nowadays as there are under ordinary circumstances, at the same season and under similar hygienic, atmospheric, etc., conditions. But somehow or other the idea has gained ground among the patrons of medical skill, that they can dispense with the doctors, that is, that the latter are more of a luxury than a necessity.

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It is said, that the saloons and the cigar stands are hit the hardest of all businessess by the falling off of trade. But if we can judge from the accounts given by some of our colleagues, and if we are permitted to draw conclusions from our own personal experience, the doctors' lot is far from satisfactory.

People who formerly would send for the doctor on the slightest provocation, will think the matter over, before sending for such an expensive luxury, as a doctor is regarded in these times. The standing of the old lady and the sympathetic neighbor, as medical authorities has been considerably strengthened by the prevailing straits in commerce. Castor oil, salts, catnip, chamomile and valerian, have been crowned with a new halo of infallibility, and the contempt of the doctor's skill is increasing.

Strange, unheard and undreamt of happenings in the lives of the several professional brethren have been recorded. Here is the doctor, who sent out five hundred dollars worth of bills and collected two dollars; here is another one who, after a practice of thirty years, sees days now, when he does not write a single prescription and the suspicion of something wrong arises in his mind. The comparing, however, of notes with his confreres, convinces him, that fortunately there is nothing wrong with him or his practice and that the trouble lies in the peculiarity of the times.

Druggists suffer, of course, in proportion. There may be a sort of an offset in counter-prescribing. But we are informed, that well-established drugstores in this city with an average of twenty to twenty-five prescriptions a day, register days, on which they do not fill a single prescription.

And the prospects? Of course as humanitarians we do not wish for any increase in disease, but we devoutly hope and fervently pray that there soon may be a return of that willingness on the part of the public to be treated *lege artis*, and the ability to pay for it.

As long as the present psychosis prevails among the legislators of our country, the "mania of procrastination," it is well to bear it mind that:

Solamen miseris socios habuisse malorum!

Action of Organic Extracts.

The favorable results obtained in myxedema by feeding the patient with the thyroid gland of animals have stimulated investigation in similar directions, for instance, the feeding of pancreas in diabetes mellitus and the administration of extracts obtained from nerve-tissue in diseases of the nervous system Encouraging results reported in the latter cases must either be due to suggestion, or the stimulating action of the extracts, or to the supplying of some substance to the nervous system that is lacking in certain affections. In our opinion the apparent improvement following their treatment is to be mainly attributed to suggestion aided by stimulation. However, any investigation of this matter by systematic and careful experiments may throw new light upon the subject and should be encouraged Alex Robertson has published experiments in this direction in the *British Medical Journal* as follows:

"In all cases the brain of the sheep was used. Arrangements were made with a butcher to have it removed from the head of the animal within an hour or two after it was killed for the market. It was immediately taken to the chemist, who made a glycerine preparation of it, flavoring and coloring it with cinnamon, cochineal, etc. Within twelve hours the medicine, if we may so call it, was ready for being dispensed; it kept quite fresh, when in a cool place, for four or five days. The usual dose prescribed was one teaspoonful thrice daily before meals, but in some cases this was increased to two teaspoonfuls. In no case was sickness or nausea produced when given in the smaller dose; but in one or two patients the stomach was intolerant of the larger quantity, and it was necessary to reduce it. The taste was not unpleasant, and no one complained that it was disagreeable to the palate. Care was taken not to mention the nature of the medicine in the hearing of the patients, lest they should revolt in its use. I have named it myelin, which indicates its nature.

"The preparation was administered to six patients in all in the asylum, and five in the Royal Infirmary. The former group included two cases of subacute melancholia of an ordinary type, and one of the resistive variety of that disorder; one of simple and one of chronic mania, and one of delusional insanity (paranoia). The infirmary cases consisted of two cases of bulbar paralysis, one of general paralysis, one of chronic myelitis, and one of locomotor ataxy.

"Besides noting the effects on the disease of the nervous system, observations were made on the pulse, temperature, respiration, and general condition. Looking at the results generally in relation to all the cases there was no decided alteration in the bodily state while the myelin was being taken; no doubt two persons gained each about two pounds in weight, but two others lost about the same amount. In two patients the respiration increased from 18 to 22 per minute, but in the others they were unchanged.

"Referring now more particularly to the cases of insanity: in two there was improvement; in four there was no apparent alteration in the mental disorder. The most marked change occurred in the case of resistive melancholia. The patient was a married woman, aged 36, who had been an inmate of the asylum for two years and three months, when this special treatment was commenced. She had not improved, except in her bodily health, which was excellent; mentally she appeared to have sunk into a state of hopeless insanity. She had ceased to speak for at least a year previously, sat with her mouth pursed up, looking fixedly on the ground, did no work, and paid no attention to anything going on around. Early during her residence in the asylum the water cap had been applied to her head and water circulated through it at from 110° to 115° F., but this

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treatment was soon stopped as it did not appear to act beneficially.

"On January 5, 1893, myelin was begun in teaspoonful doses thrice daily before meals. On January 24 the following note was taken: 'On the third day after the medicine was commenced, the patient became decidedly more active in mind, and since then the improvement has increased. Thus she now sits down to sew of her own accord, and does anything she is asked to do without pressure. On the third day, also, she began to speak, but only uttered a few words, and after being urged. On the fourth day the myelin was increased to two teaspoonfuls thrice daily. For some days after this she spoke somewhat freely and sensibly in answer to simple questions, but afterwards she got duller and spoke less.' On February 8 it was noted that she still spoke occasionally and correctly, but that at other times she was rather obstinate, though she did as she was told without delay. At this date her weight was increased by two pounds. The myelin was continued till June 14, when it was definitely stopped, and resumed after some days on three occasions. No distinct effect was, however, observed as a result of these intermissions and resumptions, except that latterly she became more excitable. About five weeks after the myelin was last given, the excitability, which had rather increased, culminated in her breaking several panes of glass. Since then she has been calmer, but has once more ceased to talk, though she continues to work, and shake hands with anyone who puts out his hand to her. Considering the case as a whole, it is no doubt clear that patient had fallen back to some extent; still there remains improvement, when her present state is contrasted with what it was before the myelin was commenced.

"The other patient, who has improved, is a woman, aged 60. She was admitted on February 10, 1893, laboring under profound melancholia of thirteen weeks' standing; she refused food and was suicidally disposed. There was also paralysis agitans of the right arm. Treatment of an ordinary kind was carried out till April 1. There was then a little improvement, but it was not marked. She still required compulsion to take food, and it was necessary to keep her under observation. She was now ordered myelin in teaspoonful doses thrice daily. Under its use there was soon more obvious improvement, as was shown by her no longer requiring compulsion at meals, and by the alleviation of the mental depression. But the earlier rate of improvement was not maintained, and the myelin was stopped on May 6. Since then her progress has been slow but satisfactory, though she cannot be considered well.

"In this case the benefit derived from the myelin is less than in the first one, but it is probable that a part of the decided improvement should be ascribed to it. From a prognostic point of view the presence of the shaking palsy is not favorable to complete recovery. In the other cases of mental disease it was not clear that any effect was produced by the medicine, and it was, therefore, discontinued after a few days' trial.

"In reference to the second group of patients, those, namely, who suffered from well-marked organic disease of the central nervous system, in only one could it be said that there was definite improvement under the use of the myelin. This was the case of chronic myelitis. The patient's power of walking was markedly improved for some weeks, but this change for the better was not maintained, and he gradually relapsed into his previous condition. No clear alteration, either for the better or the worse, was observable in any of the others.

"These, then, are the results of my experience with this preparation. They cannot be said to be either definite or striking. And yet the impression remains on my mind that there is a constituent in the brain of the sheep, and doubtless also of other animals, which acts as a stimulus to nerve tissue cell and fibre in the human subject in certain morbid states of these structures.

"It is probable that more decided beneficial effects will follow the subcutaneous injection of extracts of nerve substance. Indeed, this is claimed for them by saveral physicians.

"But it appears to me to be premature, especially in the case of such a disease as epilepsy, to record "cures" soon after this or any other method of treatment has been adopted. Where there is improvement or apparent recovery, the powerful influence on some minds of the use of a new remedy, especially if there be anything peculiar in its nature, with the consequent reaction on the bodily disease, should always be remembered. When seeking to estimate the value of treatment in any case this should be carefully considered, but more particularly when the morbid change is in the nervous system; not seldom the psychical is really the chief remedial agent. For the most part, the published statements representing the action of injections of the extract and emulsion—for both have been used subcutaneously—have been somewhat vague and general. It is desirable that careful accounts of cases, detailing the condition before and after the treatment, should be re-recorded, and that where there is improvement a reasonably long time should elapse after the subsidence of the symptoms before the patient is pronounced to have been cured."

CORRESPONDENCE

Ulceration of the Lower Part of the Colon.

Editor MEDICAL REVIEW. — I have a gentleman under my care that has "suffered much from many physicians and is no better" that I would like suggestions for his benefit. My diagnosis is ulceration of the lower part of the colon. He passes a good deal of slime, mingled with shreds of membrane. The stools are well formed and passed without pain in the rectum; the slime is passed at intervals and without fecal matter. Digestion good, strictly temperate. Has

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suffered for three years. I have made a careful examination of anus and rectum by speculum and up as far as a long fore finger will go. Parts healthy. I have treated him by injections of solutions of argent. nitras, sodæ chlorinat., pinus canadensis, with only temporary benefit. He had been dieted in every possible way before he came under my care and has had any quantity of remedies poured down his throat without benefit. His health keeps up quite well, still he is some what reduced and is not able to do hard work. Suggestions from the profession through the columns of the REVIEW will be thankfully received. It is a little strange that none of the text books have a word about this condition. I have on my shelves "Pepper's System of Medicine." "Flints' Practice," "Bristow's Practice," "Wood's Practice," and have any quantity of journals I have examined without finding even a hint of this trouble, but I have seen at least two cases in the care of others. Are these cases so very rare as to have escaped the attention of writers?

FRED. HUTCHINS, M.D.,
Woodbridge, Cal., Feb. 26, 1894.

Intermittent Hydronephrosis.—This was the subject of a communication by M. Tuffier to the Surgical Society, Paris. The speaker has made experiments upon animals for the purpose of studying the mechanism of the condition (*La Trib. Med.; Med. Bull.*). In his statements he had in view the results of his experiments and the facts which he had learned from his operations upon twelve patients suffering from intermittent hydronephrosis.

The condition can be produced once out of two experiments upon animals by mobilizing the kidney and afterward fixing it in an abnormal position. When hydronephrosis was produced there was always found, in these animals, a bend in the ureter, generally two centimetres (three-fourths inch) below the hilum of the kidney. It is, consequently, this flexure of the ureter which is the cause of the intermittent nephrosis, and twice M. Tuffier was able to clearly perceive a bend in the course of an operation. In animals, when this bend was produced, the urine was retained in the pelvis. Little by little the kidney dilated and atrophied. The atrophy, however, does not occur for a long time, and meanwhile the contents of the sac is urine. In order to explain the intermittence, it must be admitted that the ureter is capable of straightening itself, either in consequence of a change of position or as a result of pressure from the pocket formed above the bend. When the effect of these two causes ceases, the flexure again forms.

As regards treatment, M. Tuffier particularly advises nephropexy, which has given him nine successes in nine operations. Puncture may be advantageous in some cases, but it is an uncertain method. Nephrectomy should be performed only when the second kidney is healthy, and when there exists no normal parenchyma around the cyst.

MEDICAL SOCIETIES

St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, Feb. 24, 1894.
The President, W. B. OUTTEN, M.D., in the chair.

DR. H. W. LOEB presented a specimen of

POLYP OF THE ANTRUM.

He said it is a curiosity taken from several standpoints. In the first place, the condition is a very rare one, he having found no reference to like cases in the literature at his command; and, secondly, it cannot be diagnosticated before death. The condition illustrated was a symmetrical one in this instance, a polypus of the same character having been found in the antrum on the opposite side. The polypus was situated on the nasal wall, just below the opening of the antrum into the middle meatus of the nose, and was of the same character partaken of by polypi situated elsewhere. He referred to the frequent association of nasal polypi with empyema of the antrum, the theory being, that pus flowing from the antrum over the middle turbinated bone and close to the ethmoidal cells, produced caries of the cells and the polypi resulted. Granville McDonald had reported twenty-five cases of empyema of the antrum, fourteen of which were complicated by nasal polypi.

He also called attention to his statement, made three months ago, about the bony origin of all polypi. The pathology of polypi has been entirely changed, and it is now thought that the great majority of them owe their origin to a disease of the bone, and not of the mucous membranes. As a result of the researches of McDonald and others, it has been demonstrated that the majority of nasal polypi owe their origin to a diseased condition of the ethmoidal cells or the middle turbinated bones. When nasal polypi are associated with pus, it is almost positive proof that the pus comes from the antrum.

DR. POLLAK said, that about fifteen or sixteen years ago, a woman, 24 years of age, came from Iowa to consult him. She had seven polypi emanating from the antrum of Highmore. Three were projecting from the mouth and hanging between the lips like cherries, and four were flattened against the hard palate. Of course she could not masticate, and had to be fed with liquid food, by means of a spoon. On depressing the lower maxilla, the long pedicles of all the polypi could be followed up as coming from above the naso-pharynx, high up behind the velum, thence into the oral cavity and out between the lips. Those projecting from the mouth were frequently cut off but grew again. On consultation, it was decided to remove the entire upper maxilla. A longitudinal incision was made along the

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nose to the lip, two transverse incisions along the upper and lower border of the maxilla, the flap laid back and the entire maxilla cut out with saw and bone forceps. The seven polypi were pending on long pedicles emanating from the antrum, like a bunch of cherries. The flaps were replaced, edges sutured accurately and union was complete in a very short time. A dentist proposed to substitute an artificial maxilla of hard rubber and gutta percha, but the price, $500, was beyond her reach. She went home, did better and was married.

Dr. A. D. Williams had removed a very large polypus which had its origin in the antrum. It grew towards the nose, filling the upper portion and breaking out at the roof. It was necessary to go through the roof of the nose, down into the antrum, in order to remove the polypus. He said that he was not aware that polypi of the antrum were of such rare occurrence, as the cavity is lined with mucous membrane from which, he thought, polypi had their origin. He had seen other cases besides the one mentioned, but that was the only one operated upon.

Dr. Loeb said he considered the case mentioned by Dr. Pollak a very remarkable one, and reiterated his statement in regard to the bony origin of polypi.

Dr. Prewitt inquired whether the doctor meant to say that all myxomatous polypi originated from the bone, and how he explained the origin of uterine polypi?

Dr. Loeb replied that he did think that all myxomatous polypi originated from bone, but that there are polypi without any myxomatous tissue. Uterine polypi, of course, could not originate from bone.

Dr. Prewitt presented a specimen of

Amputated Leg, Removed for a Condition of Senile Gangrene.

About six months ago the patient, a man 60 years old, trimmed a callosity on the under surface of the great toe, and applied to it tincture of iodine and other medicines. This was soon followed by severe pain in the foot, but it was some time before the toe grew dark The pain, however, became excruciating, morphine in large doses having no effect.

The spread of the gangrenous process ceased on the first of February, and, at that time, involved the whole plantar surface, about half the heel, and, passing up the side of the foot, encroached slightly upon the dorsum, involving all the toes to the base of the metatarsal bones. Subsequently, a portion of skin on the outer side of the leg became gangrenous, seemingly, from pressure on the bed. It was two inches wide and four inches long, and extended upwards, commencing at a point two inches above the maleolus. At one time there was threatened blood poisoning, the tissue above the gangrenous portion becoming swollen, blisters forming, and the patient's temperature rising to 104°. Amputation was refused, and the conditions again subsided under the application of antiseptic dressings. Pain and tenderness were continual along the line of the tibial artery and, when amputation was performed above the knee, that vessel was found obliterated to the bifurcation, a condition beautifully illustrated in the specimen.

The speaker said, although some authorities claim that the pain is more severe in cases of gangrene resulting from embolism, and although it could not have been more severe than in this one, he still believed this to be a typical case of senile gangrene, in which there was a condition of the arteries resulting in gradual obliteration by thrombosis.

Dr. Jacobson related a similar case, in which he had amputated the foot. The patient was a man 60 years of age, in whose case the line of demarcation extended to the metatarso-phalangeal articulation. Sugar was found in the urine, but disappeared since the operation. The gangrene did not recur. Although the case presented some features of the senile variety, diabetic gangrene, which is quite frequent, suggested itself in this case.

Dr. Y. H. Bond presented two pathological specimens. The first was obtained on the Monday previous, from a young woman, mother of three children. The last labor had been a very severe one, and had been complicated by a laceration of the cervix When examined, the uterus was found retroflexed and resting upon a prolapsed firmly adherent ovary, lying in the cul de-sac of Douglas. It was utterly impossible to reduce the uterine flexion, or to replace the prolapsed ovary. Laparotomy was performed, the ovary removed, and the uterus fixed to the anterior abdominal walls by means of a buried catgut suture. Tho patient has made a splendid recovery.

In referring to cases of this character in general, the doctor called attention to the necessity of making a thorough examination of the pelvic organs of every patient, within six weeks after labor. Displacements, occurring as a result of elongated round ligaments, take place soon after labor and can be corrected by a suitable pessary, if recognized early before adhesions have taken place. Abortions, occurring in the early months of pregnancy, are often followed by septic troubles, resulting from an imperfect muscular development of the uterus and a consequent inability of that organ to properly expel its contents. In such cases sepsis, traveling from the uterine cavity through the tubes, produces peri ovaritis.

Lacerations of the cervix, as in the case presented, are often the cause of this conditien, illustrating the necessity of dealing with them at once and using proper prophylactic measures to obviate the necessity of operative interference.

The second specimen was an ovary which had undergone cystic degeneration and which had been firmly adherent to the small intestines. It was removed on the morning of the same day. The point of interest in this case was an apron of omentum, which was so excessive that the ovary could be reached only with great difficulty, and then only after the patient had been

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placed in Trendelenburg's position. In removing the cyst the broad ligament was clamped, ligated and cut through, all hemorrhage having ceased, apparently. As soon as the stump was dropped into the pelvis, however, and traction released, the ovarian artery began to spurt freely, a condition which might have been the cause of death, if negligently handled.

Dr. Funkhouser fully concurred with the speaker, as to the necessity of examining patients a short time after delivery, and said, that he insisted on it in every case. He stated, that patients often objected to wearing a pessary a year, and inquired of Dr. Bond, how many cases he had been able to cure without operation, in which the condition had lasted a year or over.

Dr. Bond replied, that he employed a Smith-Thomas bulbous pessary to keep the uterus in position and lift the ovary out of the cul de sac. If the pessary be properly fitted, causing no pain, and be introduced early enough, before the round ligaments have lost their resistency and become so attenuated that they will not regain their tone, the condition may be permanently corrected by retaining the pessary eight months or a year. If the patient is willing, after she has been acquainted with all the facts, he would perform the operation.

Dr. E. H. McCullers read a paper (see page 201), entitled,

Mechanico-Therapeutics by Means of Apparatus.

St. Louis Obstetrical and Gynecological Society.

Regular Meeting, Thursday Evening, Jan. 18, 1893.

The Uncontrollable Vomiting of Pregnancy.

BY L. CH. BOISLINIERE, M D.

There are very few women who do not suffer from vomiting and nausea during the early months of pregnancy. This affection, although very annoying to the patient, generally gradually ceases about the fourth month. It can hardly be called a disease, and this form of vomiting is so well known and the remedies suggested are so familiar, that it hardly should be mentioned here. The late Prof. M. M. Pallen used to consider this affection rather as a favorable effort of nature to get rid of the effects of malnutrition or of some "peccant" humors, as this was then called, and, therefore, was rather an advantage to the patient; the vomiting to be checked only when excessive.

But there is another form of vomiting that seems to resist all remedies, and, from a moderate annoyance, becomes a very serious disease, often the indirect cause of abortion; and occasionally bringing the woman to the portals of the tomb.

This form of pernicious vomiting presents three stages, which could not be better described than by quoting the descriptions given by Dubois and Chomel:

First Stage.—"The irrepressible form of vomiting rarely begins suddenly, but insensibly follows the simple form; generally appearing under two months; it may happen later in pregnancy. The irrepressible cases are characterized by very frequent vomiting, in which all or nearly all the food taken by the patient, is ejected. The smallest quantity of food, even a few drops of cold water, are sufficient to excite the vomiting." Emaciation, debility, altered features, insomnia, almost constant ptyalism, complicate the situation. (Stolz, Viglid, Cazeaux.)

This first stage is devoid of marked fever.

Second Stage.—Fever sets in with a temperature of 101° to 102°, the pulse being from 100 to 140 per minute. The vomiting is almost always constant, and violent, rapid emaciation takes place; the mouth becomes dry, the thirst is intense, the breath acid and fetid.

Third Stage.—There is a change in the symptoms; the attacks of vomiting cease, or become less frequent and less severe. But it is a deceitful calm, which the experienced physicians knows to be the prelude to death. (Dubois). The fever persists, syncope and cerebral symptoms appear. There are intolerable neuralgic pains, disordered sight and hearing, hallucinations, and delirium, which is that of starvation, coma and death.

The progress of this terrible affection is usually slow, as the patients do not generally succumb until after the second or third month of the disease.

Hopeless as these cases may appear, they are not necessarily disastrous. Nature has many resources at her command; for example, the supervention of an acute attack of diarrhea or cholerine, and a violent emotion may suddenly put an end to the most violent vomiting. Burns and Desormeaux state that they had never known vomiting depending on pregnancy alone, to have a fatal termination. The vomiting sometimes being caused by malignat affections of the stomach, tubercular peritonitis, etc., when no pregnancy exists.

Some patients, whom the vomiting due to pregnacy, had reduced to an apparently hopeless condition, have been suddenly restored to health by the transference of the irritation of the uterus to some other organ. Cazeaux, relates the case of a young German lady two and a half months pregnant, troubled with obstinate vomiting from the first two weeks after conception. She was extremely emaciated and feeble, her stomach rejecting the smallest amount of even cold water, and her breath was disgustingly fetid. In short, her symptoms were so serious, that M. Dubois, whose patient she was, requested the additional advice of Chomel. Both these physicians came to a most unfavorable pregnosis; and the advisability of procuring an abortion was considered by Dubois, as the only resource to save her life. On the second day after the consultation, the patient was attacked with violent purging, and, from that time, the vomiting ceased and never returned. The poor suf-

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ferer was at once able to take and retain some nourishment.

In two other cases, which Prof. Dubois relates with commendable frankness, he had decided it his duty to propose the induction of premature labor. The women declined submitting to the operation and reached the term of their pregnancies in good health and were safely relieved of healthy children of the ordinary weight and size.

Generally speaking, the vomiting seems to have but an indirect influence on the life of the child. I do not know, says Cazeaux, of a single well attended case of death of the fetus from inanition, through defective nutrition of the mother; although these violent efforts at vomiting might so shock the uterus as to cause an abortion.

Fortunately, the pernicious vomiting of pregnancy is a rare affection. It has seldom been observed in Germany. Carl Braun, in one hundred and fifty thousand cases of obstetrics, has never observed a single fatal termination; whilst the French, the English and the Americans have not been so fortunate. Robert Barnes, has himself seen nine fatal cases; McClintock shows a much worse experience; O. W. Doe, an American, has collected 48 cases of this disorder with 18 deaths; Gueniot, a French accoucheur, records 118 cases with 46 deaths. Prof. W. W. Jaggard, in his admirable essay on the Pathology of Pregnancy, remarks "that the diversity of the observations by accomplished obstetricians, is suggestive that it is hardly probable that national characteristics, the environment, or other conditions are adequate to the creation of such essential changes in the course of this disorder. It is noteworthy that in many of the cases of death from alleged hyperemesis of pregnancy, the diagnosis has not been verified by post-mortem examination."

The post-mortem researches, when made, have often revealed that the sources of this vomiting were quite independent of pregnancy, that the cause of the vomiting existed in either ulcerations or cancer of the stomach, tubercular peritonitis, tabes mesenterica or fibroid tumors of the uterus, as observed by Tilt, etc. These observations confirm Burn's opinion referred to above, that he has never seen a fatal case of hyperemesis depending solely on pregnancy. Trousseau, after attempting to produce an abortion, as a remedial measure, in one of these cases, discovered at the autopsy, that the uterus was empty, and that the woman had died from a cancer of the stomach.

Ahlfeld, has reported three cases in which he seriously considered the artificial interruption of pregnancy. In each of these cases it was, however, possible to alleviate the disorder without recourse to the evacuation of the uterine contents. Winkel and Cohnstein have been equally successful in the treatment of this disorder by therapeutic means alone. On the other hand, P Dubois asserts that he himself observed twenty fatal cases; but notice, that no post-mortem examinations were reported to have been made in these fatal cases; thus creating a well grounded suspicion, that the pernicious vomiting may have been caused by disease independent of pregnancy.

Horocks pertinently remarks: "That when there was no post mortem examination of a fatal case of vomiting, I do not believe that one is entitled to say that the pregnancy caused the fatal vomiting. Scepticism as to the alleged frequency of the fatal cases of this disorder in the present state of our knowledge, is accordingly eminently in order, says Jaggard, who adds that when the symptom is due to pregnancy alone, in the entire absence of the aggravations of any previously existing condition, the outlook is favorable. It is doubtful whether an authentic fatal case of this kind is recorded. But when the vomiting is due to the aggravation of a previously existing lesion of the alimentary canal, particularly gastric ulcer, cancer of the stomach, and some of the pathological lesions noticed above, the prognosis becomes much more serious. Cases of the gloomiest prognosis are those in which the hyperemesis sustains no causal relation to pregnancy." (Jaggard.)

I had two fatal cases of pernicious vomiting. In one the vomiting was irrepressible and brought up blood and green matters with severe epigastric pains. The cause of death proved to have been a large gastric ulcer. In the other case a malignant growth and perforation of the stomach was revealed by the post mortem examination.

Other Causes. The Reflex Theory.—It is admitted by many authorities that the pathogenesis of this disorder is a reflex phenomenon. Thus, the reflected irradiations of an ulceration and erosion of the cervix (J. H. Bennet) or that caused by a retroflexed or incarcerated uterus, or by anteflexion (E. Gehrung, Graily-Hewett), may through reflex action, originate the nausea which becomes afterwards aggravated and terminates in the uncontrolable vomiting of pregnancy.

It is to be noted that this disorder is to be met oftener in the primiparæ than in the multiparæ; and it may occur as a family idiosyncrasy. I have attended three sisters with this uncontrolable vomiting of pregnancy, all recovering.

Treatment.—A number of medicines have been proposed for the cure of the vomiting of pregnancy. If one drug fails, another may succeed. Tentative attempts should be made by groping along, as it were, amidst the long list of medicines suggested.

In the first, apyretic stage, and before the patient is in real danger, but only harrased by an annoying and almost constant nausea and vomiting, great attention should be paid to the diet. She should breakfast in bed and take a short nap after; these patients' appetites are sometimes very capricious and even unreasonable; for instance, the lighter articles of food may be rejected, whilst most indigestible substances will be retained, such as sausage, pickled pork, cheese etc. In the light cases, I have seen relief obtained by eating salted popcorn and salted almonds. Sometimes, after using effer-

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vescent Vichy or alkaline waters, or ice in the mouth, and these failing, champagne wine and even brandy almost to intoxication, or Kirschenwasser on account of its hydrocyanic acid, will succeed very well.

But if, in spite of these or similar means the vomiting is becoming more uncontrolable, ten grain doses of the oxalate of cerium, as recommended by Simpson, or of the subnitrate of bismuth associated with ten drops of dilute hydrocyanic acid, or two drops of beech creosote every two hours, may succeed, and a few leaches or cups applied at the pit of the stomach, if there be marked epigastric pains, will give relief. When there are discovered through a speculum ulcerations or erosions of the cervix, these should be touched several times with the pure nitrate of silver, often with the happiest results. When these means fail, one-fourth grain of cocaine may be given every two hours or an hypodermic injection of one-fourth grain of morphine repeated every three hours, but it should however be remembered that often morphine causes vomiting; then it should be stopped. Also one drop of wine of ipecac, or one drop of tincture of iodine often repeated, are said to have been successful. In the failure of these measures, give a four ounces enema of forty grains of chloral suspended in starch water or some nutritive fluid containing Liebig's extract of beef, or the whole of a fresh egg with milk, the retention of the enema being secured by pressing firmly on the anus for fifteen minutes the end of a towel wrung out of ice water. Sometimes forty grains of bromide of potassium may be associated with the chloral or used separately. The prolonged state of constipation so habitual with women should be relieved by frequent laxatives; this constipation being frequently the cause of the vomiting.

In the pernicious cases resisting all these measures, the Copeman's plan of dilating the os with the index finger may be resorted to successfully. It is a hazardous method, not devoid of the risk of producing an abortion, which is then indirectly produced, the direct production of it being never permissible and is not indicated as stated above. Cazeaux says, If it be justifiable to induce premature labor at 7 or 8 months in cases of contracted pelves, I have no hesitation in declaring myself against the production of abortion in above cases of vomiting. In the induction of premature labor in cases of contracted or obstructed pelves, the danger is inevitable unless a Cesarian section or symphysiotomy be performed, to save the child. But, however intense the vomiting may be, and notwithstanding the state of exhaustion to which it reduces the patient, still it is not inevitably fatal." Unlooked for recoveries will frequently occur either spontaneously or from the effect of the medicines. Observers of the highest experience (C. Braun, Kiwish, Hohl, Ahlfeld, Cohnstein, Cazeaux, etc.) have never been compelled to resort to the production of abortion in cases of uncontrolable vomiting of pregnancy.

Carl Braun, lays the greatest weight upon the expectant and more modern medication of these cases, and says that, after a conscientious estimate of all considerations and contra indications, artificial abortion may be omitted. C. Braun is an authority of the highest order, his experience extending, as stated before, upon the marvelous report of one hundred and fifty thousand cases of obstetrics.

According to all these authorities, it is proved that in the great majority of cases, the mortality accompanying irrepressible vomiting is not caused by pregnancy alone, but by some pathological lesions independent of it, and that therefore the producing of abortion will not cure the hyperemesis and is at least a useless procedure.

The important and delicate question of producing an abortion under the above circumstances has, by the author been carefully considered, and the practice rejected, this rejection being supported as stated above, by the highest authorities.

This statement of the question has been emphasized in this paper in order, on the one hand to check the ardor of some too aggressive surgeons, and on the other hand to give hope and encouragement to some others too timid or too easily discouraged.

In all cases of obstinate hyperemesis, the state of the uterus should be carefully ascertained. It may be completely retroverted or retroflexed and even incarcerated in the pelvis. The uterus then should be gently reposited, the woman being placed in the genu-pectoral position, the retroverted uterus should be elevated by two fingers in the rectum and conjointly through the vagina by the other hand. The bladder should be evacuated and also the rectum, by using in order to empty this, a syringe with a very long elastic hose or tube, reaching past the promontory and back of the uterus where large and hard masses of feces may often be found impacted by the fundus and above the promontory of the sacrum. After the reposition an Albert-Smith-Hodge or Thomas pessary should be properly adjusted and the patient kept for some days in bed, lying chiefly on her chest, with elevated hips. This proceduce has often been found to relieve immediately the worst cases of uncontrolable emesis. In cases of prolapsus or procedentia uteri, this should be corrected by the usual method recommended in treatises of gynecology.

Discussion.

Dr. Lemoine.—I have only known of one fatal case of vomiting in pregnancy, and that case confirms the views that Dr. Boisliniere presented; that such fatal cases are due not so much to the pregnancy as it is to some additional pathological condition. It was a case of recto colitis which caused the patient's death. I can recollect three extreme cases that recovered, and in those cases we thought we would have to produce abortion. The treatment was very much upon the line the doctor has laid down. I will mention a case which recently recovered. The patient is a lady who on a former occasion, under my charge, came near dying from extreme vomiting, but recovered. In this case I

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thought we would have to give the case up, but allowing the stomach to be entirely at rest, not putting any medicine into the stomach or any nourishment, nothing more than water, by nourishing her per rectum, and using hypodermics, we saved her. In that case I used three-eighths of a grain of morphine every night and 1-100 of a grain of nitro glycerine, with complete control of the whole case, within a short time, and had a complete recovery. In the case of feeding per rectum I used beef peptonoids with whiskey, and nothing else.

DR. FORD.—Did she abort?

DR. LEMOINE.—No, sir; she is now going on with the pregnany; but in this case, the pulse reached as high as 180; the temperature at times was high, but frequently fell below the normal; but she has regained the normal condition both as to temperature and pulse under the treatment I have indicated. In the morning I would give the patient nitro-glycerine hypodermically—I gave it twice a day. She took three-eighths of a grain of morphine; there was no other medication, unless brandy per rectum. In all these cases I think it is important to let the stomach alone.

DR. PAPIN.—In listening to the doctor's paper I was reminded of a young man whom I appointed as my assistant in St. John's Hospital; he was just from the German Hospitals and a graduate of this country, he graduated with a good deal of honor to himself; I asked him to take a book and write the prescriptions as I dictated them to him and when I began to dictate the first one he stopped, hesitated and said, "Doctor, according to my experience and all the authorities in this you are wrong," and so I think of your paper. You quote too many authorities and do not give enough of your experience and your clinical experience; that would impress us more and aid us more than Cazeaux, Moreau and the others. I would advise you to revise the paper and give us more of your own experience. I am more interested in knowing what you have done than what you have read. As to the necessity of abortion in continuous vomiting, though my experience does not amount to a great deal, not more than five cases, I never saw the necessity in a single case of extreme vomiting to produce abortion. On one occasion I did accidentally produce it. I had just been reading the reports of the English discovery of the man who by dilating the os with the fingers for the purpose of producing abortion, had succeeded in, not producing abortion, but stopping the vomiting, and I met a gentleman in the northern part of the City, a very eminent doctor up there, and related to him what I had been reading and he said let us try it on this patient, and we did: We put her in position and proceeded very carefully, but the next morning the husband said his wife was better, and there was no use to try to convince him that we did not intend to produce the abortion which took place. Another very interesting case, because of the surroundings and social position of the woman and of her own intrinsic worth, was that of a lady who nearly died from vomiting. A schoolmate of this lady had been similarly affected, and after a long siege fell into the hands of the Philistines, and they finished her. This lady knew all about that case and it impressed her very much; so I was requested to see her in consultation with Dr. Boisliniére and Dr. Maughs and after a long talk and examination Dr. Maughs said that nothing but an abortion would save the woman's life. Dr. Boisliniere did not acquiesce in the matter, and seemed loath to push his own views forward. I said this is a very serious matter, let us lay the matter before the patient, and it was done and she looked so wistfully, and I took her hand and I said: "I wont allow it Jenny," and I turned to them and said: Gentlemen under no circumstances will I produce an abortion; I think I can cure her without it. I resorted to pretty much the same plan as you did; I gave hypodermic injection of morphine, (nitro-glycerine was unknown then) and said to her mother, you go down and prepare Jenny some breakfast and she will be able to eat it, and much to her mother's surprise, when she came back her daughter was sitting up in bed talking and laughing with me. She ate some breakfast and I told her to lie down and keep quiet until five o'clock, when I would be back. I went back at five o'clock and the whole house was demoralized; Jenny was vomiting again. I gave her a second hypodermic, not quite so much as the doctor gave, one-fourth of a grain; she was relieved again and took some dinner. I stayed with the family an hour talking and joking; was there again at daylight and renewed the hypodermic injection. I went on giving the morphine but gradually diminished the amount until finally I was giving her nothing but hypodermic injections of water. Her child is living to day, and some day promises to be a worthy son of a most worthy father and I feel very proud of him. I think myself that where prolonged vomiting in pregnancy proves fatal, it is due to some extraneous cause besides the pregnancy, because if there is not, eventually this thing will let up. I do not look upon the vomiting of pregnancy as a pathological condition any more than I do upon the contraction of the uterus during labor. I do not look upon it as a disease; it is normal. We all have contractions of the bowels and stomach all day long, and ordinarily we do not know that we have a stomach—we do not feel it, because the brain is not disturbed. So it was with the woman who woke her husband one night and told him she felt something moving between her legs, and sure enough it was a baby to which she had given birth in her sleep. This is a rather rare case however.

DR. ENGELMANN.—I saw one of the cases which Dr. Papin referred to, and it was a case which is in accordance with my views of what we call vomiting in pregnancy with a reflex or hysterical neurosis. The patient had been treated by all schools and when I saw her she had a constant vomiting—a hiccoughing vomiting. The first relief that she had was by an application to an eroded cervix, no internal medication was given because this was out of the question; and I looked upon the case in that light; that the vomiting was due to this

condition of the cervix, but as this had been going on for a long time, I did not think it would be overcome by the treatment of the cervix; the cervix was treated and improved, but the stomach was in such a condition, that as the result, I think of simply the mechanical irritation, nothing was to be done, and as a last effort we delivered her, hoping to give her some benefit. The uterus was in such a condition that not a single labor pain was brought about after the dilatation; it took five or six hours to slowly dilate the cervix, but when it was dilated sufficiently it was necessary to resort to faradism to expel the child and placenta; that is a pain would be brought about by the faradic current; then it was given a rest, and another pain induced, and in that way the child was delivered; and when the child was well down a pair of small forceps were applied and the placenta afterwards removed; but we had no hemorrhage because the uterus was contracted again by the electricity. In this way all the uterine contractions were produced by electricity. I think the gastric condition was such, that while the vomiting was stopped she died of exhaustion. I believe, of course, there are cases in which there is a combination of gastric conditions which cause the vomiting in pregnancy, but those are not what we consider cases of vomiting in pregnancy, which I look upon as purely of reflex origin and a neurosis,as we have in connection with uterine diseases due to irritation of the nerves either by pressure or by irritation upon the raw surface. I have seen those milder cases where without internal medication the vomiting was stopped by application to the eroded cervix; and likewise those by diminishing the pressure. We have precisely the same nausea and vomiting in uterine disease under similar conditions from raw surfaces and from pressure caused either by inflammation or flexions. In pregnancy it is the pressure caused by the distension of the congestion. The statement was made here that in Germany this is extremely rare. I had not heard that before; but I should not be at all surprised if we have more of it here in consequence of the more acute sensitive organizations.

Dr. Lemoine.—How did you apply the current in the case you mention?

Dr. Engelmann.—One pole to the cervix and in the canal and the other externally.

Dr. Ford.—I wish to compliment Dr. Boisliniere on his able paper; he has exhausted the subject. In my opinion Dr. Engelmann is quite right in regarding this pernicious vomiting as of reflex origin in many cases. I would go further than the doctor has done in regard to its origin being sometimes ovarian and uterine; that is, the wall of the uterus and its lining membrane may have been so much affected previously to the impregnation by some chronic inflammatory process. It is pretty well acknowledged too, that distension may cause reflex gastric symptoms. Under certain given conditions the distensibility of the uterus is materially affected; the womb does not grow as long as it should and is subsequently actually stretched by the advance of pregnancy. There is abundant reason to believe that these reflex symptoms, exerting their force upon the stomach, may take their origin in various affections of the cervix and its portia dura. Independently of all this, I can bear record to one case in which during the first two or three months, the vomiting was extremely frequent and exhaustive, accompanied by pain in the region of the liver. An abscess of the liver was eventually developed which broke through the lungs. We ought not to forget that pregnancy is a condition which affects the nutrition of the entire organism. We know that structural changes occur in the liver, and it takes but little thought to conclude that such changes must be associated with hyperemia and portal ischemia. I attribute much of the vomiting in pregnancy to this effect on the liver; there is certainly a tendency to the accumulation of blood in the gastro-splenic vein and the gastro mucous membrane. This is a physiological condition which can be still further increased by reflex action coming from the uterine organs or from the larger or small intestine, in some cases in all likelihood producing a septic or quasi septic condition, where there is defective intestinal peristalsis. In chronic constipation or well-marked diseases of the peritoneum—in chronic peritonitis and similar troubles, there is apt to be a more or less marked absorption of septically disposed material which passes of course directly into the liver. Dr. Prewitt probably recollects a case which occurred many years ago of a young lady who died from uncontrollable vomiting, actually of starvation, yet she certainly was not pregnant. Had she been married and pregnant the case would have been called one of pernicious vomiting.

Dr. Gehrung.—The term "uncontrollable vomiting" is not quite appropriate as the title for an article that has for its purpose to show the means to control the affection. I think the term pernicious vomiting is far preferable. It is not a disease, it is but a symptom of many pathological conditions. This vomiting may depend on toxemia from various causes, on diseases of the nerves or nerve centers, on diseases of the stomach and other organs. It frequently depends on reflex actions, as Dr. Engelmann says, pseudo neuroses and neuroses of the generative system, which I have seen illustrated in most of the cases that came under my personal observation and treatment. I have seen only one fatal case and that was in consultation, the day before the patient died. I never found out what was the actual cause of her death. But I have seen many other cases which depended on these reflexes. With Graily Hewitt I believe that most cases of pernicious vomiting depend on diseases of the generative organs and more especially displacements with their consequent pathological effects, and lastly, that forward displacements (particularly flexions) are more fertile of this vomiting than backward displacement. I have seen quite a number of cases which occured at the 7th or 8th month of pregnancy and no relief whatever has been obtained by previous treatment until by the application of an anteversion pessary and replacement of the uterus even at the 6th, 7th or 8th month almost instanta-

neous cessation of the vomiting took place. Many cases which I have seen in consultation, where the usual remedies had been used and nothing accomplished, the cause anteflexion being recognized and the replacement effected, the patient would get well. For example: A patient was brought to me two years ago, from a town in Illinois, she was brought in a carriage and was unable to walk; she could keep nothing on her stomach for some weeks; different remedies had been tried at her home but without result. I found her pregnant at the 5th month, uterus anteflexed. I adjusted a horseshoe anteversion pessary and advised her to go to a hotel and try a light dinner. She visited the exposition two or three days and I never saw her again. Just one year ago she came again under similar circumstances and told me then that after I applied the pessary she felt very well, ate and drank and visited the fair and exposition and went home well, and in due time had the pessary removed and was delivered of her child. She again became prgenant and the vomiting returned; I again applied the pessary and reduced the displacement, she went away and I have not heard from her since, so I suppose she is all right again.

DR. FORD.—What month of pregnancy?

DR. GEHRUNG.—The seventh.

DR. FORD.—Have you applied the pessary in the 7th month?

DR. GEHRUNG.—I have applied it in the 8th month with good advantage.

ABSTRACTS

MEDICINE.

Pernicious Anemia.—A case reported by Craig, of the University of Dublin, gives an opportunity of recording some clinical points in the history of this disease which may not be perfectly familiar to all (*Pacific Medical Journal*). In Craig's case the blood was pale, thin and did not clot; no excess of leucocytes, but the red corpuscles were few and not coalescent; much variety in shape and size was also noted. The majority of the corpuscles were smaller than normal, and in number were only 1,700,000. The amount of hemoglobin was only 18 per cent of that in health. The urine averaged 50 to 60 ounces daily. The urine in this disease may not present any peculiarities, if simply investigated upon the ordinary lines, but additional character may often be determined by fuller analysis, to which has recently been attached much importance, *e. g.*, excess of iron, increased and abnormal pigments, blood pigments, increase of the aromatic sulphates and ptomaines. Several observers, noting the presence of iron in the urine, concluded that it was the result of a corpuscular destruction and was being eliminated by the kidneys. Hunter, of Edinburgh, in some of his recent investigations, made a quantitative estimate of the amount of free iron contained in the liver and spleen, with the result that the liver showed a percentage of .083 and the spleen .171, in the exsanguinous condition. Contrasting this result with that observed in a case of pernicious anemia, the liver was found to contain seven times the amount found in health, whilst a diminution below the normal was found in the spleen. This fact would seem to identify the liver with the hemolysis. But further research showed that the dark color of the urine, frequently found in pernicious anemia, was due to pigments—not combined with iron. The coloring matter in normal urine is urobilin, that in pernicious anemia a pathological urobilin, which, following McMunn's views, is a derivative from stercobilin. The stercobilin, a chemical resultant of the putrefactive ferments of the intestinal canal acting upon bilirubin, biliverdin (products of effete hemoglobin), and also upon the hemeglobin present in meat taken as food. Of the stercobilin thus produced, part is taken up by the portal circulation, and, undergoing further changes, is excereted as pathological urobilin. This condition suggests an excessive purerfactive activity in the intestines. Hunter arrived at a similar conclusion by a different series of investigations, viz., the excretion of the sulphates. In health the sulphates taken with the food appear in the urine as sulphates of sodium and potash; in delayed proteid digestion, owing to the presence of intestinal ferments, decomposition sets in and an aromatic series results, indol, phenol, skatol. The latter is principally excreted in the feces, the former combine with sulphur and potassium forming potassium indoxyl sulphate (indican) and potassium phenyl sulphate, and are excreted as aromatic sulphates. Both froms of sulphates, aromatic and inorganic, are found in normal urine. Now it is found clinically that, if putrefaction in the intestine exceed the normal, the aromatic products will be increased and the inorganic reduced; this change is found in pernicious anemia. In some cases, however, the relative proportion of these products, even in diseased conditions, so closely approaches the normal that it was difficult to attribute to the moderate degree of putrefaction present sufficient activity to account for the marked destruction of the blood, which the excess of iron and pigment found in urine indicated. Hunter carried this suggestion into active research, resulting in the discovery of not merely the presence of putrescin and cadaverin, but an unknown ptomaine. From these results he concluded that there are present special mirco-organisms in the diease which constitute destructive agents in the blood, and that after all the role played by the liver was excretory and not destructive, and that the hemolysis takes place in the spleen and the gastro intestinal mucous membrane. This conclusion suggests a line for therapeutical treatment which might possibly prove satisfactory. Intestinal antisepsis, oxygen inhalations and transfusion of

blood have lately been recommended, but are not yet sufficiently established to be entitled as curative agents. The changes in the blood corpuscles are too familiar to require repetition.

Parasites in Cancer.—Gustav Nepveu reports to the Academie des Sciences (*La France Medicale*) as follows:

"The question regarding the origin of cancer is far from being settled. Is cancer a trophical disease or is it a parasitic lesion? The great number of delicate elements found in cancer warrant the belief that the karyokinetic changes which are produced in these condition cannot of themselves explain their presence, nor that of certain cellular formations which are entirely abmornal.

"These delicate elements are spores in different stages of development—sporoid cells, and parasitic epithelioid cells

"These spores are collected in masses in sporiferous cells of different appearance; they are also free in the plasmatic spaces, etc. In the course of their development they pass into another state, that of sporoide cells, and arrive at the stage in which they assume the appearance of adult cells of the epithelioid form.

"The spores and sporoid cells, to the number of eight ten or more, penetrate into the ameboid cells—the white cells of other authors—which are very numerous in the superficial layers of the tumors. They then penetrate into the cells, by way of karyokinesis, the products of which they infect, and finally into the nuclei of the epithelial cells. Thence they fall into the cellular cavities, compress them, and produce an atrophied condition of the nuclei. These cells of sporic origan have a peculiar stamp. The new intra cellular formations which are the results of such conditions present sometimes many nucleoli, sometimes striated on the surface of the cellule around the nucleole, sometimes a species of central comma, and sometimes spores mounted on stems like musical notes, etc. The free formations derived from the spores have a peculiar appearance and seem to be atrophied.

"Along with these formatioms must be mentioned: Cystic cells fixed to the walls of the lymphatics, with four interior cells, and in addition to these, there are very small epithelioid cells in the interior of other epithelial cells which are well developed and have also a nucleus divided into four parts; there are also very largely developed epithelioid cells which have four white cells in their interior, at the point of the original nucleus; I say white cells by way of abbreviation, to indicate those of a rounded form and determined volume; they are really cellules, resulting from the division of the nucleus, and are essentially parasitic, resembling the ameboid bodies filled with sporoid cells, which have been described above. It is necessary to note also the small cells with large nuclei which may be brightly colored with fuchsine phenol, in aqueous solution. They are generally in number about ten or twelve, in a common envolope; but these rarely are found. These little cells are transformed into ameboid cellules, with from eight to ten little nuclei. Each of these nucleoli becomes a very small epithelioid or parasitic cell."

The development of this whole subject indicates a special action which differs essentially from the karyokinesis in its best recognized features, and resembles the evolution of the sporozoaires. If the parasitic doctrine, even is not well founded, a fact which experiments can perhaps alone determine, it would be very useful to go a little further into the details of this pathogenic research which so many authors have already commenced, for it is to be hoped that by such means something more may be added to our present knowledge of the parasites of cancer.—*The Sanitarian.*

The Etiology of Leukemia and Pseudo-Leukemia.—Verdelli (*Centralbl f. die medicine Wissensch.; Am. Journ. of Med. Sci.*) has reported two cases of pseudo-leukemia, in all of of which, both by culture from the lymphatic glands and from the blood, and in sections of various organs, he was able to demonstrate the presenee of staphylococci pyogenes in pure culture (in the first case staphylococcus albus, in the second staphylococcus aureus, in the third staphylococcus aureus and albus). In the first, staphylococci were found in an axillary gland extirpated three and a half months before death; in cultures from the blood of the heart two hours after death; and some cultures prepared at the autopsy, from lymphatic glands, as well as in sections of these glands treated by Gram's method. In the second case, cultures from an inguinal lymphatic gland excised twenty one days before death, yielded negative results, although staphylococci were found in sections of the gland, as well as in cultures prepared two hours after death from blood from the heart and from the femoral vein, and in various organs. In the third case, staphylococci were obtained six hours before death in pure culture from blood from one of the fingers, and immediately after death, from supra-clavicular, epitrochlear, and inguinal lympatic glands, from the blood, and from the spleen. By introduction of these cultures into the peritoneal cavity and subcutaneous connective tissue, as well as by the introduction of bits of excised glands into the peritoneal cavity, the following results were obtained in rabbits:

1. Enlargement of lymphatic glands, spleen and liver.
2. Round-celled infiltration, diffuse or oricumscribed, resembling the appearance presented by lymphoma, especially perivascular, principally in lymphatic glands, spleen, liver, lungs, less commonly in the kidneys.
3. Slight thickening of the connective tissue of all the internal viscera.
4. More or less marked and extensive atrophic and necrotic processes involving the parenchymatous cells (of lymp glands, spleen, liver, and lungs, but especially liver and kidneys) in special relation with the inoculated infectious agent.
5. A slight but indubitable arteritis, particularly of

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the medium sized and smaller vessels, of varying intensity in different organs, but always more pronounced in spleen and lungs.

Variations in the histological changes were obtained by the repetition at intervals of several days of intense inoculations, the animals dying before sufficient time had elapsed for the changes described to have assumed a chronic character. All in all, these changes bore a close resemblance to those of leukemia and pseudo-leukemia. Investigation in one case into the urotoxic coefficients was not conclusive, although it appeared that in frogs the respiratory and cardiac frequency were diminished, and that the irritabilty of the animals while slightly lessened immediately after the injection, increased considerably until opisthotonos, lasting for a short time, was developed; again diminishing as death was approached. From a comparison of the two cases of pseudo-leukemia the inference is drawn that in this disease the degenerative and neoplastic processes may present great variations in the individual cases, and that the degenerative processes may preponderate to such a degree that the neoplastic changes are almost wanting, or vice versa; thus two varieties of the disease may be distinguished anatomically, the first almost exclusively neoplastic, lymphomatous; the other degenerative in consequence of coagulation necrosis. The fact that the micrococci found in the blood and in the affected lymphatic system in all three of the cases were alike; further, the fact that in one case the oragisms were found three and a half months before death; and finally the fact that it was possible to induce in lower animals anatomic changes resembling those of leukemia and pseudo-leukemia, appear to Verdelli to afford strong confirmation of the view that there is a causal relation between organism and the disease. As suppuration was not observed in any of the cases, and only exceptionally in the experimental investigations, it is to be concluded that the virulence of the organisms was attenuated; the pallor of the colonies, their decolorization under certain conditions, likewise indicating a diminution of chromogenetic activity. The interpretation given these cases is in harmony with Virchow's view of their pathogenetic unity, although existing knowledge will not permit the final acceptance of such a view.

SURGERY.

Stricture of the Urethra Treated by Water Pressure.—Surgeons, and perhaps more particularly general practitioners, from time to time find themselves face to face with cases of strictured urethra that offer complete opposition to all efforts made for their relief. Such cases are usually most urgent and distressing. The plan pursued with two patients as detailed below will, I think, commend itself, as it is evident that though no instrument may be passed the pressure exercised at the first attempt is sufficient to obtain an amount of dilatation that allows the subsequent hot-bath treatment to afford a marked relief to the overcharged bladder and, thus enabling both the patient and surgeon to tide over a most trying, if not perilous, condition, eventually permits successful catheterism even where speedy operative interference appeared to be inevitable.

Case 1.—In September, 1889, Dr. Ramskill kindly sent me a patient for treatment who had been the subject of urethral stricture for nearly thirty years. He had become so bad that at the time I first saw him he had for days only been able to void a few drops of urine with the most painful effort. In attempting to pass a catheter I found it impossible to introduce even a catgut; so, directing him to take a hot bath and endeavor to gain relief to his bladder, I left him for the time being. Later he had managed to obtain a certain amount of relief. I, therefore, arranged to see him in my consulting room on the following morning; but here I again found it impossible to get anything through the stricture. It occurred to me that I might try the effect of the pressure of a column of water. Fortunately, I had a Palfrey's vaginal douche at hand, and from this I detached the terminal tube and affixed the nozzle of a Thomson's bladder washing-bottle, which is provided with a stopcock. Raising the douche to the highest point I could gain in my room, and passing a blunt travelling catheter (railroad) down on to the stricture, I slipped the nozzle into its free end and turned the tap, meanwhile holding the catheter firmly in its place, continuing the water pressure for about half an hour, and now and then closing the tap in order to relieve the patient, who said that he felt that the water was finding its way into the bladder. At the expiration of the half hour I directed him to try to pass urine. This he succeeded in doing to a certain extent and manifestly in a freer manner, though the dribble could scarcely be dignified by the term "stream." On the morrow I again applied the water pressure with marked result, and on the third day used it again, after which I was able to pass a French No. 1 catheter and empty the bladder. The case was then duly conducted through the ordinary course of dilatation up to about No. 11 English.

Case 2.—In December 1891, Dr. Ramskill was again good enough to send me a case of urgent retention, using the expressin as applied to the bladder simply. The patient had but recently returned from Africa in order to be treated for a long-endured stricture that had got beyond his own control. He came to my room in great agony, but I found it impossible to overcome the stricture. Remembering the success of the former case, I at once prepared my douche and applied the water pressure, but he could not bear it for more than five minutes. I ordered him to have a hot bath, and I saw him again on the next day. He had been able to dribble away, in a series of hot baths, sufficient to gain some slight relief, but was now in a state of terrible suffering. I tried No. 1 catheter and a catgut, but to

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no purpose. I therefore at once reapplied the water pressure, which he bore better, but still I could not pass even catgut, so I resorted to hot baths again. On the third day the same condition obtained, and the same measures were taken. On the fourth day he appeared to be worse, and his symptoms were really so urgent that I told him that he must go home, so that I might operate upon him. While I was talking to him I kept up the pressure, and finally made one more trial with a No. 1 catheter, happily with success; it slipped in almost easily, and gave the patient much relief. The subsequent conduct of the case was easy and rapid, and he was able to return to Africa.

These cases so impressed me that I have never had a troublesome case since in which I have persevered in the attempt to pass a catheter if the stricture was difficult or offered much resistance. I invariably insert the traveler and turn on the water, and always with gratifyng results, the catheter passing them without further trouble. There is no doubt that the water acts under pressure as an elastic wedge or dilator. The necessary apparatus for this treatmen consists of a cistern, which may be either an india rubber bag or a zinc box,capable of holding a quart of water, a length of flexible tube, and a nozzle provided with a stopcock; the nozzle will fit into the top of a soft catheter which terminates in an open end. The cistern must be raised to the highest point of the room, over the couch upon which the patient reclines; the catheter must be kept closely applied to the stricture; the water pressure is then to be effected by turning the stopcock, and can be put off or on according to the patient's toleration. It will be seen that I fitted up my apparatus with just the elements I had to my hand, and that it answered every purpose; but for the benfit of those who are inclined to make use of my method I have given instructions to Messrs. Maw, Son, and Thompson, who will be able to supply the want of anyone applying to them. In conclusion, I would ask such of the reader of the *Lancet* as may try this plan of water pressure to kindly publish the results of their experience and their opinion of the process.—Charles J. Smith, M.R.C. S. Eng. in *The Lancet.*

E. Bassini's New Operative Method for the Radical Cure of Femoral Hernia.—This method of operating for the radical cure of femoral hernia is designed on an anatomical basis and besides being very simple has the advantage of showing many lasting results (Escher in *Centralblatt f. Chirurgie; Journ. of the Am. Med. Sci*). It is evident that it will soon become as popular as Bassini's method for the cure of inguinal hernia.

Bassini shows that the femoral canal which is a funnel-shaped or triangular opening with its apex downward, is closed normally by the cribriform fascia which is directly connected with the fascia lata, Poupart's ligament and the fascia pectinea, and that neither the falciform process or Gimbernat's ligament exist as such, but are formed by the tearing and giving way of the cribriform fascia, thus forming the rupture. This occurs at the narrowest part of the canal in the femoral or crural ring.

Bassini here illustrates from a plaster cast, made by injecting plaster-of paris into a femoral hernia, which shows plainly the position of this ring whose lower boundary is masked by the close underlying great saphenous vein at its junction with the femoral vein.

This position, as well as the normal tension of the femoral sheath, explains the fact that in a structure or compression of a femoral hernia these veins are not affected. Normally the tension of Poupart's ligament with a fascia lata, and the cribriform fascia form a sufficient barrier against the descent of a hernia. The relaxation of these parts, as well as the separation of the fibers of the cribriform fascia, is accountable for the formation of a femoral hernia. This is also the cause of its greater frequency in women, who besides this have a broader pelvis then the male, and in whom the abdominal walls give away more easily.

The object of the operation is to bring the prolapsed and crowded parts back to their normal position and tenson.

Bassini lays bare the sac, the fascia lata and fascia pectine by an incision close under and parallel with Poupart's ligament. The sac is drawn well up above the crest of the pubis and an incision is made through it and the contents replaced in the abdominal eavity. The sac is then twisted on itself, pulled well forward and secured around its neck with clamps. The neck is then transfixed with several ligatures, the remaining portion cut away, and the stump replaced. This leaves the femoral ring plainly exposed and the structures forming the canal lie free. This is now closed with six or seven stitches as follows: The first stitch being well up near the pubic spine and passes through Poupart's ligament. The next two stitches near the femoral vein, lie parallel to the above, the fourth pierces the falciform process and the pectineal fascia, while the last stitch will be close to the point of exit of the saphenous vein. The ligatures are now tied, beginning from above, thus forming a letter, C. This is caused by the tension of the first three sutures which are depressed in the middle and lie close to the os pubis. Including the suturing, the entire operation last only from fifteen minutes to half an hour.

Bassini allows his patients to leave their bed in from eight to ten days, and dispenses with the use of a truss. In this manner he has operated on fifty-four hernias in fifty-one individuals (forty women and eleven men) ranging from 17 to 70 years of age. All recovered without complications Eight left the hospital on the ninth day, twelve on the tenth day, five on the eleventh day and four on the twelfth day; the remaining twenty one on the thirtieth day. None wore a truss and all resumed their usual occupations. Twenty seven were kept under observation from three to nine years,

These good results speak clearly enough in favor of this operation, which for its simplicity should be recommended above all others.

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NOTES AND ITEMS

Poisons in Canned Vegetables.—The Department of Agriculture, Chemical Division, has been investigating the matter of canned foods, under the direction of H. W. Wiley ("Foods and Food Adulterants;" *Am. Journ of the Med. Sci.*). The work was directed especially to methods of preserving, preservatives employed, and food value and digestibility. As to the wholesomeness or unwholesomeness of added preservatives, the report draws attention to the fact that the great weight of testimony is to the effect that while these substances in small quantities are not injurious to health, their cnntinued use may finally become prejudicial. It is also shown that the same quantities which prevent the action of micro organisms, and thus prevent decomposition, are also active in the digestive organs and hinder the normal functions of the digestive ferments. There are other added chemicals in many varieties of canned vegetables used for adding to the attractiveness of their appearence. Considerable attention was paid to the examination of the vessels containing the vegetables. The German law prohibits the presence of more than 1 per cent of lead in tins employed for holding canned goods, but in this country there is no restriction whatever in regard to the character of the tin employed, some of which has been found to contain as much 12 per cent of lead. In Germany, the solder employed in sealing cans is not allowed to contain over 10 per cent of lead while here the anlyses of numerous samples of solder employed show that it contains fully 50 per cent. In addition to this, no care is taken to prevent the solder from coming in contact with the contents of the can; large surfaces of solder on the seams are exposed to the action of the acid contents, so that lead is a very common constituent of canned goods. Another great source of danger from lead exists in the use of glass vessels closed with lead tops or with rubber pads containing sulphate of lead.

With regard to the food value of canned goods, the report shows that in such vegetables as string-beans, asparagus, etc., it is quite low, while in such as canned corn, succotash, etc., is is quite high. The lowest percentage of dry matter in American string-beans was 4.17, showing that in purchasing one hundred pounds of such material one buys 95 83 pounds of water. In one specimen of French string beans the percentage of water was 96.13.

In the course of the investigations, eighty one samples of canned and bottled peas were examined; forty-three were of American and thirty-seven of foreign. All of the foreign brands, except two, contained copper; one contained zinc. Fourteen of the forty-three American samples contained copper; twenty-nine did not. Salicylic acid was present in five French and ten American samples. Tin was present in fifty samples, lead in fifty and zinc in fifteen.

In all, two hundred and forty eight samples of all sorts of vegetables were examined, and in no less than one hundred and twenty-one was salicylic acid detected. Zinc was found in fourty, copper in eighty-eight, and lead in one hundred and thirty two.

Suicide.—A Committee of the New York Medico-Legal Society, to which was submitted the question of the repeal of the existing law making punishable unsuccessful attempts at suicide, recently presented the following report, which was approved and ordered to be submitted to the Legislature of the State and the Constitutional Convention:

1. It [the law] is wholly indefensible from the standpoint of this great principle, that all penal laws should have for their object the deterring rather than the punishment of crime.

2. It in effect repeals the former laws making suicide a crime, and makes its unseccessful attempt punishable only; so that its effect is to stimulate the would-be suicide to higher efforts toward self-destruction to avert the punishment it visits only upon failure.

3. The act, therefore, instead of serving as a deterrent to the commission of crime, which should be the aim of penal legislation, is one which, in its whole scope and effect, incites to and probably actually increases the volume of this crime.

4. Civilization, in the recent centuries, has regarded and treated suicide as a crime, and has attempted to so frame its penalties as to act as a deterrent upon the minds of those who sought or have contemplated it.

The majority of mankind would be influence by any post mortem punishment that would bring disgrace or reproach upon the names, family, or friends of the suicide.

The existing statute ignores the universal recent judgment of the race, in relieving the successful suicide from all such restrainst, with their conceded deterrent effects.

5. A large proportion of suicides are confessedly those laboring under insane delusions. Unsuccessful attempt by such, under the existing statute, are pitiful examples of the incongruity and unwisdom of the law in its practical operation.

6. It is claimed, and with great propriety, that the present statute is practically inoperative.

We respectfully submit that this enactment should no longer remain among our criminal statute.—*Medico-Legal Journal.*

The Causation of Tetanus.—In the January number of the *Revue de Medecine*, M. J. Courmont and M. M. Doyon give a review of the most important of the recent contributions to the literature bearing upon the etiology of tetanus, of their own previous articles on the subject, and of subsequent experiment which they have performed (N. Y. *Med. Jour.*). They are

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led to the view that the micro-organism of tetanus acts not by its toxic properties, but by giving rise to a fermentation which engenders a toxic product. The article does not really admit of condensation. The conclusions reached are thus expressed:

1. The bacillus of Nicolaier engenders tetanus through the instrumentality of a soluble ferment which it gives rise to.

2. This ferment, which is not poisonous of itself, elaborates, at the expense of the organism, a substance which is directly tetanizing, producing effects comparable to those of strychnine.

3. This latter substance is found in abundance in the muscles of those affected with tetanus; it exists also in the blood and sometimes in the urine.

4. It resists prolonged boiling, but the bacillary products are rendered inert by heating to 149° F.

5. It requires for its formation favorable conditions of temperature. Thus is explained the immunity of the frog in winter.

6. Natural or acquired immunity may be considered as the result of causes which prevent, retard, or arrest the fermentation above referred to.

7. It is probable that other microbian substances called toxic likewise act as soluble ferments to produce toxic substances at the expense of the organism.

The State Medical Association.—The Committee on Scientific Communications of the State Medical Association respectfully urge upon those members who propose to read papers at the approaching meeting of the Society, that they send the titles of such papers to the Committee as soon as practicable, in order to facilitate the preparation of the programme.

W. E. Schauffler, Kansas City; C. Lester Hall, Kansas City; J. E. Tefft, Springfield, Committee.

Dr. Paul Paquin.—Accurate microscopical, chemical and bacteriological analyses made promptly for physicians. Investigations limited to sputum, urine, and stomach contents for the diagnosis of the disease of the lungs, kidneys and stomach. Sterilized labeled jars and vials, and printed directions as to the best modes of gathering and submitting specimens, furnished on demand. Specimens improperly gathered are subject to contamination and will not always be accepted for analysis. They lead to long and unreliable labors.

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Albuminuria.

℞ Infus. digital., - - - - - - - - ℥iij.
Potass. acetat., - - - - - - - - ℥ss.
Syrup. juniperi, - - - - - - - - ℥j.
M.
Sig. Teaspoonful every two to three hours.

Alcoholism.

℞ Neurosine, - - - - - - - - one bottle.
Sig. Tablespoonful at night. Repeat if necessary.

Obesity.

℞ Phytoline (Walker's), - - - - - - - fl℥ij.
Sig. Take ten drops in water before and after the three daily meals as directed.

Opium Habit.

℞ Neurosine, - - - - - - - - one bottle.
Sig. One to three teaspoonfuls for insomnia.

℞ Tinct. nuc. vomic., - - - - - - - fl℥ij.
Tinct. belladonnæ, - - - - - - - - fl℥j.
Tinct. capsici, - - - - - - - - fl℥j.
Acid phosphoric. dil., - - - - - - - fl℥ss.
Aq. lauroccrasi, - - - - - - - - fl℥ij.
Syrup. simpl., - - - - - q. s. ad fl℥iv.
M.
Sig. Teaspoonful three times a day.

Chronic Pharyngitis.

℞ Argent. nitrat, - - - - - - - - gr. xxx.
Aq. destill., - - - - - - - - - fl℥j.
M.
Sig. Apply with brush.

Abortion.

℞ Dioviburnia, - - - - - - - - - fl℥ij.
Tinct. opii, - - - - - - - - - fl℥ss.
M.
Sig. Teaspoonful three times a day.

Chronic Eczema.

℞ Sennine, - - - - - - - - - ℥ij.
Sulphur. precipitat., - - - - - - - ℥ss.
Hydrarg. oxyd. rubr., - - - - - - - ℈j.
Pulv. camphor., - - - - - - - - - ℥j.
Ungt. aq. rosæ, - - - - - - - - - fl℥ij.
M.
Sig. Apply to the affected parts.

Tinnitus Aurium.

℞ Syrup. acid. hydrobromic., - - - - - fl℥ij.
Sig. Teaspoonful three times a day.

Chronic Rheumatism.

℞ Mixture of Guaiac Stillingia (Griffith & Co.), one bottle.
Sig. As directed.

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RAILROAD NEWS

Bulletin of Points of Interest Reached via the Iron Mountain Route.

The American public is seldom hoodwinked, and where facts are stated, they give the closest attention to anything calculated to intersst them. The few facts mentioned below can be fully substantiated by a personal investigation.

HOT SPRINGS, ARKANSAS.

This celebrated resort is unquestionably the premier health and pleasure resort of the American Continent, if not the entire world. Thousands visit it annually for the purpose of renewing health, and securing rest and recreation. Good hotels and numerous places of amusement are prominent features, and the solid through Pullman service via the Iron Mountain Route, from St. Louis, places it at the very doors of the citizens of this country.

TEXAS.

Fair Texas has within its domain, in Austin, San Antonio, Galveston, and El Paso, four renowned health and pleasure resorts, that owing to the salubrity of their climate, make them the "Mecca" for tourists, and invalids suffering with pulmonary troubles. Through Pullman service via the Iron Mountain Route reaches these points, as well as other Texas cities, in fast time.

MEXICO.

Consider not the season of the year, as Old Mexica is always in its proper season to receive the traveler who seeks health and pleosure. Many points of interest are located in quaint Old Mexico, and owing to its close proximity to the United States, bids fair to become the "Mecca" of the American tourist.

CALIFORNIA.

The land of Sunshine, Fruits and Flowers, boasts of San Diego, Los Angeles, Sacramento, San Francisco, and a countless number of health and pleasure resorts that have a wide reputation throughout the world. Reduced rates are now in effect from points on the Missouri Pacific Railway and Iron Mountain Route, to California, and the through service from St. Louis makes the Pacific Coast very popular with the tourist of the day.

For descriptive pamphlets pertaining to the above mentioned States and points, and for full particulars as to the best manner of reaching these sections, write to the undersigned.

H. C. TOWNSEND,
General Passenger Agent, St. Louis.

J. M. H. BROWN, M.D., House Staff, Cook County Hospital, writes as follows to The Searle & Hereth Company:

"The benefits arising from the use of your valuable preparation of Triticum Repens known as "Tritica" has greatly surprised me, as well as my associates. In several chronic cases of cystitis considered beyond the pale of internal medication, if not beyond that of local application even, it has produced the most laudable results. Outside practicing friends of mine concur wite mh in my opinion regarding its use. Thanking you for the kindness of forwarding samples, since which time we have introduced it in our hospital."

FOR NERVOUSNESS AND INDIGESTION use Horsford's Acid Phosphate. Dr. L. B. Allen, Minneapolis, Minn., says: "I have prescribed it in extreme nervous cases and indigestion, with great satisfaction."

DR. M. A. SHWEETERS, Sa Euclid, O., says: "I am using Sander & Son's Eucalypti Extract, Eucalyptol in cases of nasal catarrh, etc., either pure or one drop of Eucalyptol and nine drops of vaseline, and spray twice daily. Have not had any failures in the frequent use I made of this drug.

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DIOS CHEMICAL CO, ST. LOUIS, MO.

Homestead, Pa, Feb. 24, 1894.

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXIX. ST. LOUIS, MARCH 24, 1894. NO. 12.

ORIGINAL ARTICLES

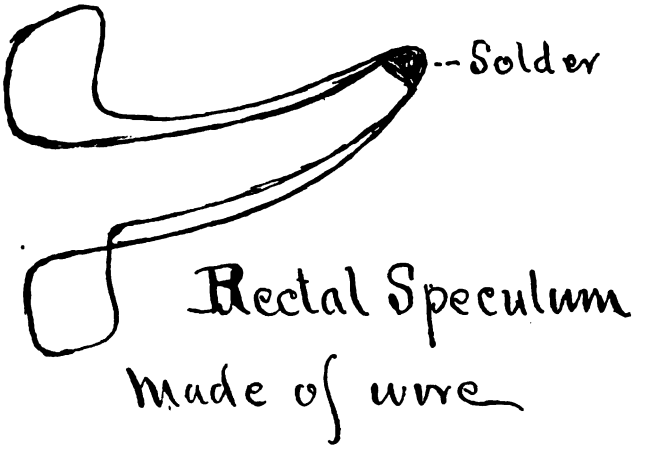
Some Surgical Applications of Electricity.

BY WM. J. HERDMAN, PH B, M.D., ANN ARBOR, MICH.

Read before the Northwestern Ohio Medical Society.

GENTLEMEN.—Many of us have been and will be called upon to deal with abnormal growths in the rectum, malignant or benign. These may have been of the nature of epithelioma, carcinoma, polypoid, villous or hemorrhoids. If malignant, the disease may have progressed so far that a choice of method of operation is no longer afforded, resection offering the only hope of relief. But let us presume that the growth, if malignant in nature, has been discovered early, but it is still confined to a limited area of the rectal wall or that it is benign in character with no tendency to progress or disseminate itself into the adjoining tissues. It may be that it is located high up in the rectal pouch; that its origin sinks deep between folds of normal mucous membrane; that it is extremely vascular. Such are the conditions which attend not infrequently the early stages of epithelioma, the most frequently occurring form of malignant growth that is found in this locality. The difficulties that beset one in the attempt to get at and successfully remove such growths are oftentimes insurmountable without a free posterior incision through the rectal wall, requiring the temporary, if not permanent sacrifice of the sphincters and perhaps the removal of the coccyx. But good surgery aims to accomplish its end by checking the abnormal with the least possible damage to the normal and just in proportion as it succeeds in this does the science of surgery progress. I have two practical suggestions to present to you regarding the surgical management of growths in this locality, both of which are comparatively new, but I feel assured that those of you who have had much experience in the surgery of the rectum will recognize them as worthy of general adoption in suitable cases.

The first suggestion relates to a method for exposing the rectal walls by means of a wire speculum and the lithotomy position. For this idea I am chiefly indebted to my friend, Mr. Richard Davy, of Westminister College, London, in whose clinic I first saw it applied. The advantages of this speculum over any other in use are at once apparent. Its shape makes it a wedge-shaped dilator of the sphincters as it is gently pressed into the anus. When in place it obscures but little of the rectal surfaces. By its shape it is self-retained, and can be readily made more so by a tape carried from its projections to a waist band. It therefore requires no assistant to hold it in place and gives free space about the orifice for sight and operation. And last, but by no



means least, it permits a wad of cotton or sponge to be placed at its apex to remain there undisturbed by the most violent peristaltic action of the bowels and successfully prevents the discharges from reaching and obscuring the seat of the operation. With this instrument in place and the patient in the lithotomy position, the perplexities that so commonly excite unholy emotions in the mind of the operator when attempting to place a stitch or find the mouth of a bleeding vessel in this locality are heard of no more.

The second suggestion has reference to the manner of removal of such growths. In the vast majority of instances it is best to do this by means of electrolysis. To those of you who are familiar with the physical effects of a constant or galvanic current upon animal tissues, this needs no explanation; for those of you who are not, I will say that at the points of application to the body of electrodes through which such a current of electricity of sufficient strength is passing, decomposition of the tissues takes place; and at that which is the positive electrode oxygen, chlorine and the acids that

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enter into the composition of the tissues are set free, and these chemical agents react upon the tissues in their immediate locality coagulating their albuminoid constituents and drying and shriveling the parts immediately adjacent to the part acted upon. At the negative electrode, on the contrary, the alkalies are set free, which in turn liquify the albuminoids and soften and relax the tissues in their vicinity. Now these are physical effects readily controlled and applied which are peculiarly serviceable in meeting the conditions we have to deal with in the destruction of growths of a nature such as we so often find arising from the rectal as well as from other mucous sufaces. Such growths are often broad at the base; they are not infrequently extremely vascular, fed by large vessels freely anastomosing; their origin may be inaccessible to knife or ligature by rea son of intervening folds of normal mucous membrane; they oftentimes are remote from the surface preventing the operator from using any form of cutting instrument easily and when he attempts this the profuse hemorrhage hides everything from sight; the incision must include a wide margin of normal tissue about the base of the growth, if it be malignant, to preclude the possibility of return so likewise must the ligature, to be effectual, embrace all that is abnormal and more; the resulting cicatrix from these methods is likely, therefore, to cause stricture or adhesions that seriously impair the function of the gut.

Now positive electrolysis brought about at the base of such a growth through the agency of an insulated needle and a regulated constant current successfully overcomes all these difficulties. The blood vessels that nourish the growth are destroyed by coagulation and shriveling of the tissues at the point where they enter it. No hemorrhage obstructs the view and there need be no loss of normal tissue. There is no danger from secondary hemorrhage; no raw surfaces to favor septic infection; no stitches to remove; no ligatures to slough away. The patient in many instances need not be confined to bed a day and in but few cases does this method of operating require the use of an anesthetic. In this statement of fact you will recognize advantages in this method of procedure over any and all others which need but to be mentioned to be appreciated.

I have made use of this illustration of the application of electrolysis in surgery because it serves to present in the most striking manner the chief features of its superiority. My purpose will, however, be but half accomplished if your thoughts are confined to this one application and you fail to recognize the broad generalization of these phenomena of electrolysis to a mulittude of disorders requiring surgical interference. The coagulating, astringent, drying effects of positive electrolysis and the possibility of conveying these effects through the tip of a needle to deep-seated parts without marring the overlying tissues, give to general surgery a ready means of controlling abnormal vascular dilatations such as aneurisms, nevi and varicosities without the necessity for a surface wound or elaborate antiseptic precautions, while the gynecologist, in the vascular fungoid and polypoid disorders of the endometrium would find it, as some have already done, a prompt and efficient means of cure; the ophthalmologist, the rhinologist, the laryngologist, the aurist, and the dermatologist will each see that it has adaptation to many conditions that arise in the range of disorders peculiar to the tissues dealt with by each of them superior to methods of treatment now in vogue.

But our illustration has dealt solely, thus far, with the range of efficiency peculiar to *positive electrolysis*, or the effects that can be brought about in living tissues by means of the *positiue electrode* of a continuous current. *Negative electrolysis* is capable of proving none the less serviceable to surgery. In the field of conservative surgery I am convinced it is yet destined to play a very important role. Cicatricial tissue, the result of inflammatory action, is responsible for much human misery. It narrows, and occludes and distorts many of the channels of the body. The nasal duct, the Eustachian tube, the esophagus, the urethra and the cervical canal of the uterus are conspicuous as points where stricture due to this cause are of frequent occurrence. In dealing with such strictures our methods and results are, as a rule, far from what we desire. Conservative surgery as has been said, aims to remove the abnormal with the least possible injury to the normal, but in the majority of measures now employed for the removal of stricture the normal is made to suffer with the abnormal and the result is proportionately unsatisfactory. It is my belief, after some personal experience in its practice, together with a careful review of the testimony of those more experienced, that *negative electrolysis* has the effect, when skillfully managed, of relaxing, softening and disintegrating these bands of cicatricial tissue and this without damage to normal tissue adjacent to them, thus releasing the canal which they have narrowed from their obstructing clutch. If this is true (and if it is not already demonstrated to be true, none of us need be long in ignorance of the facts) you can readily see what an important stride will be made in conservative surgery as soon as *negative electrolysis* is universally employed for the removal of strictures, pelvic adhesions, fibroid tumors and the like, which at present give rise to some of the most formidable and destructive operations known to surgery.

Disinfection and Sterilization.

BY CHARLES GRAEFE, M D., SANDUSKY, OHIO.

Read before the Northwestern Ohio Medical Association, Toledo Ohio, December 15, 1893.

It has been known for several centuries that certain noxious miasms existed in the air and this fact was taken into account by surgeons in their treatment of wounds; but it was left to Lister to formulate certain rules which went to make up the so-called antiseptic system. The

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system which had its begining and reached its greatest popularity within the memory of those who are still in the ranks of the younger surgeons, was based upon the results of investigations made in continental laboratories, chiefly by Pasteur and Koch. The universality of micro-organisms was soon discovered by bacteriologists. Thus it is estimated that one cubic centimetre of hydrant water drawn from the river Spree will average about 37,000 germs; while Manfredi has found 761,521,000 microbes in a gramme of street dust. It has been the aim of the antiseptic system of surgery to destroy or render these germs innoxious and prevent their influence in producing suppuration in wounds. The spray was devised for cleansing the air of microbes, but as paradoxical as it may seem, the same science upon which its use was based, will prove its utter uselessness. Many examinations have been made with the object in view of determing the number and species of the various micro-organisms which are found in the air under varying conditions. An article published by Cleves-Symmes describes a number of very practical experiments in the Berlin Hospitals, which have a special bearing on the question under consideration. He selected three (3) points specially adapted for experiments of this kind. The first being Bergmans Clinical Amphitheatre, the second a ward for men in the Augusta Hospital and the third a ward for women in the Victoria Hospital. For several successive days, simultaneously five times a day, and for 20 minutes at a time, he exposed gelatine plates at each of these places The first exposure was made at 5.30 A. M. before the patients had risen. The succeeding exposures after sweeping, the changing of bandages, and during such times when the air would be most likely to be impregnated with floating germs. The plates were then placed under conditions most favorable for the development of the germs, and the result was 1666–1651 and 1396 colonies as a result of cultivation and as a total of all the exposures. It was observed that by far the highest percentage was found upon the plates exposed during the morning sweeping. This brings out the fact that dust is a carrier of microbes and should especially be avoided. He also made some experiments by Petri's method which consists of pumping a certain volume of air through sterilized sand and then developing the germs found in the sand. The results were about the same as produced by the former methods. The plates used were about the size of the palm of the hand, and as an average of 40 to 50 germs were deposited during each exposure of 20 minutes, it can easily be seen how large a number of germs under like circumstances would be deposited on an open wound of the same size and in the same length of time. About ⅛ of the 4,613 germs found in the experiments above noted were of the mold species and there appeared to be but (2) two species, the staphylococcus pyogenes aureus and bacillus pyocyaneus which are known to produce wound infection; and of these, upon close observation and cultivation but one was unmistakably the bacillus pyocyaneus. Other experiments have led to different results as to species and number of germs found, but these having been made in the surroundings which are usually found present during operations and the dressing of wounds would seem to offer the best evidence as to the amount of infection which might be derived from the air. They also go to prove what practical experience has already taught us, that is, that infection is usually derived from other sources than the air, a fact which gave the first great blow to Listerism; the abandonment of the spray. It was hard for those who were so filled with antiseptic enthusiasm, to be robbed of the means for producing this mystic carbolic incense offered to the microscopical genii of the air, for the fetish worship of the spray was supposed in an indefinite way to be a safeguard against all the evils of a Pandora's box. But, on the other hand, to those who for hours were subjected to a carbolic steam bath which dimmed their glasses, made their hands nnmb and gave their clothing the odor of true antiseptic sanctity, the relief was great. The air having been shown to be but a secondary agent in the infection of wounds, it has been almost universally accepted that the hands, instruments and in fact all things which come into direct contact with wounds are the most potent factors in infection.

The substitution of irrigation with chemical solutions which became so generally in vogue, and upon which so great a weight was laid after the abandonment of the spray, has been shown by experiments, (some of the results of which we will cite) to be practically of as little use as the spray.

Frankel has shown that an immersion of *Bacillus* Anthracis in a 5% solution of carbolic acid for 40 days did not prevent the growth of the germs and that a 1% sublimate solution had no greater effect in 20 minutes. Miquel and Redard have shown by experiment that in a 24 hour submersion of pus infected articles in a 5% carbolic solution, they were not disinfected, but that the solution when made from hydrant water served as culture medium for the development of many microbes. Laplace was the first to show that sublimate through its tendency to make combinations with albumen lost most of its effectiveness when brought into contact with the tissues, pus and blood.

Investigations made by Dr. A. C. Abbott, at John Hopkins University and by Dr. McClintock, at the University of Michigan, lead to the same results, and the conclusions generally reached are, that sublimate becomes ineffective first through its affinity in forming combinations; second, by its being deposited about the germ in crystals; and third, that it together with all of the chemical germ destroying solutions is ineffective, because of the destruction of the tissues by any solution of sufficient strength to kill the germs. Schimmelbusch has shown by a number of experiments with threads infected with the bacillus pyocyaneus, that there was growth of the bacteria in a ½% sublimate solution for from 20 minutes to 8 days and for a longer period when the threads were dipped in oil. Many

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more experiments which lead to the same conclusions have been made, but it is unnessessary to multiply examples to prove what has already been proved—and the most charitable conclusion in regard to the effect of chemicals if they have any, is, that their use produces a slight eschar through which it is difficult for the micro-organisms to penetrate. The relief from the spray which was so welcome can be shared by those who operated in makintoshes and waded about the operating roomin goloshes besprinkeled and irrigated by streams of sublimate solutions in their endeavors to carry out the system in a "regelrecht" manner.

Chemical disinfection has been generally superseded by sterilization with heat, either applied dry, by means of boiling water, or by steam. It has been found that nearly all germs are destroyed by heat, applied in any of these forms, and the aseptic method has superseded all others in clinical work, though perhaps most carefully carried out in Bergmann's Clinic in Berlin. A number of different forms of sterilizers have been devised, but the principle of asepcis by heat can be carried out in any kitchen where a steamer, an oven and boiling water can be found. These with soap and water can be summed up as representing the principles of asepticism, wonderful as it may seem after all the tomes which have been written on this and kindred branches of our science.

Antiseptic surgery can not be robbed of all credit as an advance in the science, great progress has been made during the time of its practice; but that the results have always been good nobody can claim, and if a list of the victims of chemical antisepsis could be compiled, the result would be startling, to say the least. It is not only by means of the poisons which are used that all the harm has been done, but the blind faith in success by means of antiseptics which have been placed paramount to knowledge of pathology, diagnostic ability and manual dexterity; to say nothing of the encouragement of incompetent operators, or the needlessly frequent desecration of cavities and organs, or the performance of operations for their "moral effect." It would be harder to break away from, and act independently of the antiseptic school if Tait had not had as good results without all of their cumbersome paraphernalia.

With such results before us we must conclude that there has been a mistake in the chain of reasoning somewhere and that the mere presence of bacteria alone, is not the sole cause of infection as is shown by the experiments made by disciples of the Munich school, who, to prove their confidence in their position, have gone so far as to swallow pure cultures of the common bacillus without producing cholera. The same bacteria may be found in different diseases thus: pus may be produced by streptococci, staphylococci, pneumococci and the bacillus of tuberculosis, while the pneumococcus has been found to be present in pneumonia, otitis, meningitis, pleuritis and septicemia.

If this can be so, would it not seem that the cell and the organ have *so much determining* power as to th effect of the infection *as the* infecting agent, and, aft all, do not conditions and surroundings play a great role in the production of disease than the omnipresen microbes? We know from the bacteriologists that l must be most careful in selecting the proper conditio and surroundings for the cultivation of his colonie and why should we not learn the unfavorable conditio from him, and seek to reproduce them where we wi to avoid infection? Who knows but that the next a vance in antisepsis will be the preparation of the syste by antitoxines or the local application of the produc of the culture of bacteria which we have been taug are fatal in excess to the bacteria themselves. O thing is certain, the history of our science through a time will bear out the assertion that the most favorab conditions for healing are the most unfavorable cond tions for the development of pus or the production infection and these are the cardinal principles of su gery. Clean incisions, the avoidance of pent-up secr tions, the stoppage of all oozing, close coaptation of th edges of the wound and the closing of cavaties to e ternal influences. To this we may add sterilized a sorptive dressing which immediately absorb the secr tions as they escape from the wound and, bein aseptic, they cannot contain the germs which lead t infection.

A Fatal Case of Acute Parenchymatous Nephritis Consequent on Impetigo.—In the February number of the *Revue mensuelle des maladies de l'enfance* there is an abstract of an account of such a case, by Dr. Pietro Celoni, published in the *Archivio di pediatria* for July, 1893. It appears that several cases of nephritis conseqent upon eczematous or impetiginous eruptions have been observed by the Italian physicians. Guaita, Canali, Felici, and Rigoli have published pretty conclusive examples of inflammatory affections of the kidneys consecutive to more or less extensive cutaneous disease. Some see only a coincidence between the nephritis and the skin disease; others take the former as dependent on the latter, and think that the agents which give rise to the nephritis must have penetrated through solutions of continuity of the skin. The particular case related by Celoni was that of a boy five years and a half old. It ran its course in four days and ended in death with all the symptoms of acute parenchymatous nephritis. The child had been attacked with impetigo three weeks before. The bacteriological examination was negative, so the case was not wholly cleared up.

Memphis, Tenn., March 1, 1894.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Reform Needed in Meat Inspection.

We have repeatedly drawn attention in the REVIEW to the necessity in this country for a more effectual meat inspection. The system of meat inspection now in vogue is absolutely inadequate to protect citizens against the danger of buying unhealthy meat Cattle should be examined before and after slaughtering by men thoroughly trained for that purpose. One cause of consumption is the eating of tuberculous meat, and before laws are made to dog the movements of consumptives after having them branded as such it would be advisable for our legislators to look into other means of reducing the number of victims to that dread disease by less cruel hygienic laws.

We learn from a dispatch to the *Globe-Democrat* of March 12, that "stock raisers of New York State are aroused on the subject of the existence of tuberculosis among cattle, and it is proposed to call upon the Bureau of Animal Industry at Washington to quarantine all New York cattle pending a thorough investigation. At a meeting of breeders in New York it was claimed that the New York State Board of Health has been killing a large number of cattle suffering from this disease in an effort to suppress it, but owing to the lack of legislative appropriation has been obliged to relax its efforts in that direction. The action thus taken by the Board has only gone far enough to arouse and excite cattle raisers, who are now making every effort to dispose of their cattle outside of the State of New York, thus avoiding a quarantine by the State Board of Health. It is alleged that such action on the part of the stockraisers is spreading this disease broadcast throughout the country. It was also stated that many thoroughbred cattle have been sent to distant parts of this country since the local quarantine by the Board of Health has been begun."

"It is learned from trustworthy sources that the British Government is investigating through special agents the existence of tuberculosis in this State, and it is not unlikely that the British Government will close its ports against the importation of American cattle because the prevalence here of this disease."

We wish to congratulate the New York State Board of Health to its prompt action in its effort to prevent the introduction into that State of tuberculous cattle, by having all diseased animals killed.

But what becomes of the tuberculous cattle which is sold by the cattle raisers, wherever it is accepted? We know from people competent to judge that a great deal of meat, derived from a similar source, is sold to the public and used as food.

The quality and number of meat inspectors in our system of inspection is absolutely insufficient to prevent the sale of diseased meat. Whoever has examined tuberculous organs in which only a small number of miliary tubercles, of recent origin, exist, knows the difficulty of recognizing them and will admit the necessity of inspecting carcasses before they are eviscerated. Our meat inspection is a farce and a blemish on our legislation. We read in the daily paper, how many heads of cattle and how many pounds of meat have been condemned by the meat inspectors and are thereby lulled into security; by giving the subject a little more attention we would readily see the stupendous insufficiency of our meat inspection. It might be argued that most meat is exposed to a sufficient amount of heat to destroy the tubercle bacilli, but this is not done in every instant, nor does it destroy their ptomaines, and, moreover, other pathogenic germs and their chemical products, found in meat, play not an inferior role in endangering the health of the people. In order to make our hygienic precautions harmonize with scientific facts we must have a reform in our meat inspection.

A Gloomy View of American Journalism.

A correspondent of the *British Medical Journal* in speaking of Mr. Ernest Hart's address to the Pan-American Medical Congress, appears rather gloomy in his views regarding American journalism. For illustration, we quote the following passages:

"The general scope of the address was to compare

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the leading rules of the etiquette of the medical profession with those of the legal profession, and to assert that such rules were not the only indispensable adjunct of every liberal profession, but that their neglect in America had led to very evil results, on which he only distantly dwelt, and which he rather implied than openly alleged. He was less measured and far more outspoken in his denunciation of the daily press of America, of which he openly declared that many of the leading organs were 'detestable' for their venality, the unconcealed obscenity of their advertisements, the encouragement and facility which they gave to the obscene vultures of a debased medical quackery, and for their habitual derision and defiance of the elementary laws of ethics in all that related to medical practice and professional conduct. This part of the oration produced a profound sensation; no one pretended that it was not absolutely true and urgently called for. But the press here exercises a dominant and oppressive power, which it frequently uses unscrupulously for dangerous and degrading purposes. And even a mild version of the outspoken words of the orator has brought down upon him, as must have been foreseen, angry abuse from hundreds of newspapers. He is denounced as 'an Æsculapian bigot of the Bourbon type,' as 'a rasping scoffer,' and so on and so forth.

"This is, perhaps, the best homage that could be paid to the unflinching assertion which the oration contained of the true principles and basis of ethical conduct, to which nothing can be more foreign than the methods, language, and practice of the ordinary American newspaper, the contents of which are habitually such that no decent household dares let them lie within the ken of its women. It is strange and sad that it should be so, but there is only one opinion in the American medical profession at large as to the perfect justice, moderation, and useful courage of this outspoken protest against the 'great pest and plague spot of American literature.' Nothing can be a stronger contrast than the purity, high literary merit, and lofty ethical standard of the great American serials and magazines than that which is presented by the impure sensationalism, the venal puffs, the habitual unfairness, the degrading slang, and the obscene advertisements which make up a large part of a great proportion of the leading American newspapers. Every American citizen is conscious of this dishonor, but (like the municipal corruption, degradation, and misgovernment of the chief cities) it has come to be regarded first with horror, then with despair, and finally with indifference. Meantime the average daily paper carries normal infection into millions of households. And few dare raise their voices against it. They are busy, they are engaged in the pursuit of wealth, they are hopeless of any improvement, and they accept it as an unhappy fate. Few go so far as to excuse it, but none dare openly denounce it. They point with pride to a few newspapers, such as the *Post* and *Sun* of New York, which have resisted the infection, but such newspapers may almost be counted on the fingers of the two hands throughout the length and breadth of the land. This digression may be permitted here because to the influence of the newspapers may be attributed much of the degeneration of the lower class of medical practitioner in the United States, and much of the financial prosperity which attends there the most unblushing and the vilest forms of quackery. It has in that great continent attained to a rampant audacity and a success in the prosecution of the vilest of medical trades such as never before in the history of the world, and nowhere else on the face of the world, is or ever was seen."

The exaggerated and pessimistic views of the correspondent are possibly to be excused by the fact that he lives in a dark and gloomy atmosphere, but that some of the assertions made in this article are true cannot be denied. Our newspapers might be less sensational; yet we think it cannot do any harm to anybody to know exactly what goes on in the world, even if one's eyes are opened with regard to the immorality in it. Virtue due to ignorance is no virtue in the true sense of the word. The consequences of immorality are to the well-balanced mind sufficiently deterring to follow in its footsteps and the young, for whose moral welfare the correspondent fears, should be taught rather the consequence of immorality than to keep them in ignorance. Every wrong action bears the germ of punishment within itself, while virtue is its own reward. The highest ideal with regard to one's conduct in life is to do right because it is right; while if the knowledge that to do what is right must be in the end the best for all concerned is inculcated into the minds of the young by scientific arguments as well as the teaching of experience, such knowledge should leave the necessary impression on less ideal natures, to keep them in the right path. Those that cannot be influenced in the right direction by either religion or philosophy will surely not be made any better by being ignorant of this life's events. With all our sensational newspaper gossip we confidently assert, that the morality in our country is at least equal, if not superior to that of any other civilized country.

With regard to the criticisms of Mr. Hart, whose talent we greatly admire, we regret that he has made the same mistake which many foreigners have made before him, of judging a country, without having spent sufficient time to be able to judge. The various forces, which work together to form a national character are too complicated to analyze within so short a space of time as Mr. Hart has spent with us, for it takes years of unbiased observation in order to form a tolerable correct opinion of the peculiarities and characteristics of any nation.

Concerning the advertisements of quacks and patent medicines in the daily press, we must admit that they are carried to dangerous extremes and are possible done in a more unblushing manner than in most other countries. Could this not be remedied by legislation?

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Toxemia as a Cause of Puerperal Insanity.

Menzies has observed one hundred and forty cases of puerperal insanity at the Rainhill Asylum at Liverpool, and upon these his study is based (*American Medico-Surgical Bulletin*). Of these, thirty cases were insanity of pregnancy, sixty-four insanity of parturition, and forty-six insanity of lactation. He rightly says that these various periods merge so imperceptibly into one another that any division must be to a certain extent arbitrary. He applies the term insanity of pregnancy to cases in which mental alienation was noted before the birth of the last child, and all that began two months after parturition he classifies as insanity of lactation.

As to the influence of the unmarried state upon the production of puerperal insanity, only ten of his patients were single women, and of these, seven had led dissolute lives previously. The author is opposed to the idea that the shame of exposure and the worry incident to illegitimate pregnancy are causes of puerperal insanity.

Ten cases in the series of a hundred and forty were cases of general paresis, and the author is doubtful as to whether the connection between pregnancy and general paresis should be considered purely accidental.

Another interesting fact is the course of labor in insanity. It is generally precipitate. The rapidity of delivery is very remarkable.

Probably the most valuable part of this paper is the discussion of the pathology of puerperal mania. Dr. Menzies advocates the very sensible theory that the cause is self intoxication. The maternal excretion is over-taxed by the considerable excretion of waste products from the fetus, accounting possibly for toxemia in the insanity of pregnancy. Delivery leaves the lymphatics choked with albuminous fluids of low vitality, which, if not excreted quickly, may change and poison the blood, in this way giving rise to the insanity of parturition. The drain of albumin in lactation possibly alters the chemical composition of the blood, and may thus give rise to the lactational type of insanity. These blood poisons engender the psychic symptoms naturally by their effects upon the intellectual substrata. In puerperal insanity, a temperature of 101° F. is not at all uncommon, even in the lactational form. Cessation of the lochia invariably aggravates the mental condition, and involution is always retarded. There are waxy pallor, sallow skin, quick production of anemia and wasting, and great destruction of hemoglobin, all pointing to a blood condition, and not to a cerebro-cortical disturbance. The universal benefit derived from a purge, the recognized objection to a drug like opium, which paralyzes osmosis, and the advantages of uterine douches, show that asylum physicians act up to the toxemic theory, whether they admit it or not.

Readers are referred to the original for a very careful elaboration of the self-intoxication theory, but the main points are given above.

As regards treatment, the author believes in hydrotherapy, purging, good feeding, stimulants, rarely a hypnotic (either chloral or paraldehyde), rest in bed, hot uterine douches, and stopping the secretion of milk, according to the case and its condition. Intestinal antiseptics he believes to be of little or no use. If they are to be employed, let it be creasotal in doses from half a drachm to a drachm thrice daily. Creolin is also efficacious.

BOOK REVIEWS

A Text-Book of the Theory and Practice of Medicine. By American Teachers. Edited by William Pepper, M.D., LL.D. Vol. II. Philadelphia: Wm. B. Saunders. St. Louis: J. H. Chambers & Co., 914 Locust Street. Price, Cloth, $5.00; Sheep, $6.00; Half Russia, $7.00.

The second volume of this most valuable text-book, does, like the first, great credit to the author. The letter press, as well as the general make up of the book, is excellent. Three hundred and twenty-five pages of the second volume together with two hundred pages of the first nolume are from the pen of Dr. William Pepper. All the subjects are treated by well known American authorities and the contributions of Osler on Diseases of the Blood, Welch on Bacteria, Lyman, Wilson and others deserve particular notice. The text which approximates 1,180 pages, is liberally interspersed with plain and colored illustrations and diagrams, in addition to the full page colored and half-tone plates, the latter taken from photographs of the natural objects. The work is an exceedingly valuable one to practitioners and students, in a scientific as well as practical sense.

A Practical Treatise on Nervous Exhaustion (Neurasthenia); Its Symptoms, Nature, Sequences and Treatment. By George M. Beard, A.M., M.D. Edited with Notes and Additions by A. D. Rockwell, A.M., M.D. Third Edition. Enlarged. Cloth. Pp. 262. New York: E. B. Treat. St. Louis: J. H. Chambers & Co., 914 Locust Street. Price, $2.75.

This book has been diligently edited and revised and much valuable matter has been added by Dr. Rockwell, a very competent author on diseases of the nervous system. The work is based upon Dr. Beard's individual experience of a lifetime. In re-issuing this book Dr. Rockwell has, besides various other additions, called attention to some of the differential points of diagnosis between neurasthenia and that functional disturbance of the digestive system, termed lithemia. Much of the text has been devoted to the multitude of symptoms

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and perverted function and sensation found in this common affection. The book may be read with much profit by general practitioners as well as specialists and students.

Outlines of Practical Hygiene Adopted to American Conditions. By C. Gilman Currier, M.D. One Large Octavo Volume. Pp. 468. Illustrated. St. Louis: J. H. Chambers & Co, 914 Locust Street. Price, $2.75.

This practically instructive work is the most recent of all existing works on the subject and the author deserves great credit for the pains he has taken, for although a practical sanitarian and expert specialist, he has submitted his manuscript, before permitting his book to be issued, to the careful criticism of experts in the various departments of the great field which the book covers. It is hardly necessary to draw attention to the importance to everybody of a book of this nature. The text is illustrated by many wood-cuts. The type is very good and the practicability of the book may be judged by the following chapter headings: Soil, Climate, Protection of Body, Clothing, bathing, Personal Hygiene, Physical Exercises, Schools, Occupations, Their Influence of Health, Heating, Lightning, Buildings, Ventilation, Diet, Foods, Their Preparation and Adaptation, Water and Water Supplies, Fluid Waste, Sewers, Drainage, Plumbing, Garbage and Other Refuse, Disposal of the Dead, Human Excreta, Disposal of; Bacteria and Diseases, Infectious Diseases, Disinfection, Restriction, Communicable Diseases.

Electro-Therapeutical Catalogue. Sixteenth Edition. Pp. 200. Chicago: McIntosh Battery & Optical Co., 141 Wabash Ave.

This Catalogue is well printed, highly illustrated with beautiful engravings of everything pertaining to Electro-Therapeutical Appliances and Optical goods, as well as matter of real value to the profession pertaining to the use of electricity in Medicine. Every physician will derive valuable information in reading the scientific articles therein contained. They can secure a copy of this Catalogue free of charge by writing to the McIntosh Battery & Optical Co.

Sir Andrew Clark and His Fees.—A Characteristic trait of the late Sir Andrew Clark is said to have been that he would never take a larger fee than that he deemed proper. On returning to London from Cannes, the patient whom he had visited on a certain occasion sent him a cheque for $30,000. He returned the cheque stating that he could not accept more than $3,750, which was not an excessive fee, as the visit had taken him away from his practice for a week. The fee was paid and the first cheque returned asking that Sir Andrew Clark would see that it was devoted to the benefit of the suffering sick poor, a wish which was faithfully fulfilled.

MEDICAL SOCIETIES

St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, March 3, 1894.

The President, W. B. OUTTEN, M.D., in the chair.

DR. OHMANN-DUMESNIL presented a patient with, what he believed to be

PRECOCIOUS MALIGNANT ACTINIFORM SYPHILIDE,

and gave the following history.—Five months ago, patient first noticed a lesion on the frenum which appeared about two weeks after exposure, and can be distinctly felt at present. It is about the size of a three cent piece, and has a red and glazed surface. There is a slight enlargement of the inguinal glands, the cervical and epitrochlear not being involved. About six weeks ago, patient first noticed pains, which began in the shoulder and descended to the knees. A few weeks later he had an elevation of temperature towards evening, followed by sweating of the trunk and an increase in severity of the pain. On about February 8, a macular eruption appeared on the belly, accompanied by severe pain, and followed, ten days ago, by numerous vesiculo pustular eruptions on the face and neck varying in size from a split pea to a dime. The lesions were roughly symmetrical, but confined more to the right side. A similar lesion appeared near the sterno-clavicular articulation, followed, four days ago, by two on the left forearm and, two days later, by two similarly located on the right forearm. The lesions have a scolloped edge surrounded by a narrow ring of hyperemic tissue, and are covered by an elevated crust which formed on about the 7th day. They increase in size by extension of the periphery and change very rapidly, presenting a different appearance each day, the contents growing more purulent. The pain subsided with the appearance of the eruption.

The doctor was inclined to doubt the correctness of the patient's statement, as to the time of infection, as the induration is very marked at present and certainly would have disappeared in five months. The peculiarity of the appearance, the location, and rapidity of formation, were referred to by him as interesting points. The fact that the condition throughout, tallies with the description of the actiniform syphilide given by various authors, and the improvement resulting from antisyphlitic treatment, were points tending to prove the correctness of a diagnosis of syphilis.

DR. DUNCAN said, that the patient gave a further history of having been vaccinated on February 4, the lesion of which is still visible, and that when the lesion of vaccination was at its height, the eruptions on the face and body and the greatest inflammatory reaction

occurred. He stated that if this were a case of specific eruption it would be a large pustular syphilide, which occur late and then usually appear on the extremities. The diagnostic point in syphilis, however, is the ulcerative process taking place under the crust, often involving tissues beneath the skin. It is absent in this case, there being a distinct constructive process visible upon removing the crust, and represented by an hypertrophy of the tissue at the periphery. He did not believe that this is a specific trouble, but a septic one due to the vaccination.

Dr. Fairbrother recalled a case which occurred in his practice 20 years ago, and which was identical with this one. He called attention to the fact, that specific infection might have occurred at the time of vaccination if the virus had been taken from a crust, a point about which there existed some doubt. He considered this a case of inflammatory pustular dermatitis of septic origin, a diagnosis which he considered justified, by the appearance of the eruption and inflammatory spmptoms early after vaccination. The case referred to by him, got well without specific treatment.

Dr. Pollak recalled a number of cases among soldiers, occurring during the war and as a result of vaccination.

Dr. Hughes, also remembered the instance and the discussion in connection with it in this society. The conclusion arrived at was, that the eruption was of septic origin.

Dr. Ohmann-Dumesnil admitted that vaccination might have had a modifying influence upon the eruption in which case the eruption would be expected to appear at the site of vaccination. He also noticed the absence of an ulcerative process under the crusts. The eruption of syphilis and that due to sepsis, might have occurred at the same time, but there can be hardly a doubt that the patient has syphilis, especially when the presence of the primary lesion, and inguinal glandular induration are taken into consideration.

Dr. Smith presented a patient upon whom he had performed

Excision of the Hip-Joint,

and gave the following history. About, 10 years ago, the patient, now 18 years old, fell and received an injury to the hip-joint. Pain immediately followed the injury and continued, more or less, until the time of operation, 14 weeks ago. Sinuses formed some time after the injury, the discharge of pus was continual, shortening increased gradually, and ankylosis supervened. The muscles of the leg atrophied from non use the patient having been rendered helpless, as far as work and locomotion were concerned. There was 2 or 2¼ inches shortening of the leg before operation. Even under chloroform it was impossible to move the limb, ankylosis having been complete. Upon exposing the joint, its normal topography was found entirely changed. The inter articular cartilage had become absorbed, the acetabulum obliterated, and the entire anterior portion of the head of the femur destroyed by the osteo-myelitic process. It was firmly fixed, so that the bone had to be sawed through the lesser trochanter and then enucleated. The bone was very soft, a few strokes of the chain saw sufficing to make the section.

The wound was treated open and an extension apparatus applied to the leg. Suppuration continued for some time, but the sinuses and wound finally healed, until, at present, the patient has pretty fair motion in the limb, which has undergone only ¾ inch additional shortening.

Dr. Meisenbach believed, that a little more conservative surgery is advisable in the treatment of joint injuries. The very fact of ankylosis occurring, as in the case presented, he considered an indication that Nature was attempting to cure the disease. The patient should be placed upon his back, absolutely at rest, extension applied to the limb, and nourishment and hygienic surrounding raised to the highest standard attainable. While there are some cases which require a total resection, and others a partial one, he thought the majority would recover without surgical interference, when the patient would be much better off, as an ankylosed joint is always stronger and more serviceable than a resected one.

To illustrate his point, the doctor mentioned three cases occurring in his practice. Two of these gave a history of rheumatic trouble, followed by a suppurative process. In the first case, that of a little boy, sinuses had formed which communicated with the joint and through which considerable pus was discharged. He was placed upon his back in June, an extension splint applied, the sinuses sterilized and treated with iodoform emulsion injections. Attention was paid to the hygienic surroundings and nourishment, and in December ankylosis was complete. The leg was put in a Thomas splint and the boy allowed to go out.

The second case was more severe than the first, being complicated by a general edema of the leg. The sinuses were laid open and drainage tubes inserted. This patient also is remarkably improved and, it is thought, will recover without further surgical interference.

The third is a case of osteo-myelitis of the right tibia, with involvement of the left hip. No suppuration has occurred in this case, but she has been placed upon her back and the extension splint applied. All pains have ceased and the patient is, generally, very much improved.

In the case reported by Dr. Smith, the speaker called attention to the fact, that the patient had never been placed in a condition of rest, and no attempts had been made to assist Nature in curing the disease. The firm ankylosis described was a good indication of Nature's efforts and, he thought, a cure would have resulted without resection or, at least, with only a partial one.

Dr. Broome called attention to the softening of bone and atrophy of the muscles, as a result of inactivity of the limb, accompanying tuberculosis of joints. The softening, he said, is not necessarily result the of a disease

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of the bone, but of inactivity atrophy, a condition which surgeons are apt to lose sight of, and often leads to their sacrificing too much tissue. After the diseased focus is removed, this atrophic condition will remedy itself. In the case reported he believed, that if the sinuses had been sterilized and not so much bone removed the functional result would have been better.

Dr Outten thought that each case is a study in itself, and the problem to be solved is, how to proceed. He believed in conservatism, that rest should be tried in every case. If a cure could be accomplished without excision, the result would be an infinitely more useful member, even if ankylosis occurred. In tuberculosis we are treading on uncertain ground, and are often compelled to perform resection in order to save the patient's life. In a case which he had treated, there was excessive deposit of bony tissue, which was removed with a view of producing a cure. Amputation had to be resorted to later on, as the first operation remained without result, as is the rule in cases of this character. He doubted the advisability of performing resection, if the patient is over 18 years, as a useful limb rarely results. Osteo-myelitis alone never justifies resection.

Dr. Mayfield considered ten years long enough to give Nature a chance to perform a cure. The fact that there had been no improvement in the case, that it was tuberculous in nature, that there existed such extensive myelitis, that the patient now had a comparatively use ful limb, and is generally much improved, were points which the doctor considered of sufficient importance, to justify the operation. He did not think that the same result could have been obtained without it.

Dr. Smith admitted that conservatism in surgery is at all times commendable, and yet no iron-clad rule could be laid down. Although rest alone may produce a cure, it would not have done so in this case. The extensive osteo myelitis, the continual pains in the limb, and its absolute uselessness, fully justified the operation, the wisdom of which was further emphasized by the result obtained.

ABSTRACTS

MEDICINE.

Serotherapy.—The serum of animals and even of men, either normally or artificially rendered immune to the effects of certain infectious diseases, has been proved to possess properties which render it of the highest value from certain prophylactic standpoints, and of great probable use in the treatment of actual in fection. A short review of what has so far been accomplished in these directions will be of interest.

These properties, while chiefly studied in serum, are possessed by other liquids of the organism. Samarelli showed more than a year ago that saliva destroyed certain bacteria, and so altered the nature of others, such as the pneumo-bacillus, as in some cases to render them harmless, Brieger and Ehrlich have shown that the milk of immune animals could transfer immunity to others which were susceptible.

The nature of this anti-toxic property is as yet but little understood, and is the subject of various theories and surmises; the liquids of the organism must act, in this respect, in one of four ways; either, 1, they possess a bactericidal property which enables them to destroy the offending germs; or 2, an attenuating effect which merely destroys their offensive power; or else 3, they act directly upon the toxines which are secreted by the bacteria and neutralize their effects; 4, or, at last, they exert a sort of catabolic action on the liquids or the solids of the organism, or both, through which the latter are enabled to repel the invasion of the parasites when they come in contact. Whichever one of these various views we may be tempted to adopt can as yet appeal to us merely from theoretical standpoints, whereas the fact itself of the antitoxicity of these liquids is one as firmly established and as clearly demonstrable as any mathematical proposition, and gives us a firm and valuable point of departure in the field of prophylactic and clinical research. It may here be said that this antitoxicity of certain organic liquids has been deemed by some as dealing a death-blow to the phagocytic theories of Metchnikoff, who merely answers that these liquids act as stimulants which prompt the phagocytes to renewed and stronger effort. Knowing as we do that there are still many substances of vegetable or mineral origin which are daily employed with full knowledge of their effects, while their exact mode of action is still surrounded with doubt and obscurity notwithstanding years of research on the part of scores of observers, we most patiently await the time that shall vindicate the true opinion in these theoretical matters, and make use at once of those data which are daily accumulating in the matter of serotherapy, and which promise so much good to the generations to come, and probably to the present one.

Researches on serotherapy date from but a few years ago. While Richet and Hericourt first announced the preventive properties of the blood of animals which had been rendered immune against a special form of septicemia, the publication of the researches made by Behring and Nissen in regard to the bactericidal properties of the serum of animals vaccinated against the Vibrio Metchnikovi, and, of still greater importance, the experiments published a few months later, in December, 1890, by Behring and Kitasato, in regard to two of the most infectious diseases known, diphtheria and tetanus, mark the beginning of what we may be allowed to call the era of serotherapy. In tetanus they produced immunity by inoculating the animals with cultures which were attenuated by the addition of varying quantities of trichloride of iodine. Rabbits, horses and sheep

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were thus rendered refractory to tetanus, and their blood, in various degrees, proved capable of protecting mice against the tetanic virus. In regard to this disease, it may be said, according to Schutz, who participated in some of these experiments, that so far the experimental results do not as yet allow of our rendering a definite judgment as to the curative effects of the blood of immunized animals. The matter, therefore, requires further experimentation. Tizzoni and Cattani have shown that this anti-tetanic serum preserves its properties for a very long time. In connection with this, it is interesting to note that Courmont and Doyon have isolated the convulsing element from the muscular substance of animals. According to them it is distinct from the toxic substance secreted by Nicolaier's bacillus, since the activity of the latter is destroyed at a temperature of 75° C. (167° F.) whereas the former is not destroyed by boiling, and acts as a ferment, under the influence of which the true convulsive matter is produced.

Immunity against diphtheria was secured by Behring and Kitasato in the same manner, *i. e.*, by the use of the trichloride of iodine. Experiments with the serum of immunized animals proved it to possess antitoxic properties, and, in some instances, to be curative. Investigations in the treatment of human diphtheria by means of this serum have not as yet proved decisive, although Aronson's later investigations show much promise of future success.

Klemensiewicz and Escherich have inoculated guinea-pigs with serum procured from patients convalescing from diphtheria and have produced a decided degree of immunity which, however, only lasted for a short period (14–20 days).

A host of experiments bearing upon serotherapy are now being conducted, and new data are constantly being added to our knowledge of the subject. Most important, among others, are the investigations that have been carried on in regard to pneumonia, tuberculosis, syphilis, influenza, cholera, anthrax and typhoid fever.

We have already said that the virulence of pneumococci is sometimes mitigated by the action of the saliva. Issaeff has shown that the serum of rabbits vaccinated against pneumococci possesses no antitoxic power, in the strict acceptation of the word, while it has a decided therapeutical utility. Ponsini is authority for the statement that when this serum is injected into animals, and they survive the inoculation of a pure culture of pneumococcus, they become proof against further inoculations. The researches made by Arkharow further substantiate these views.

As regards tuberculosis, we know that dogs, while refractory to experimental aviary tuberculosis, are no longer immune if inoculated with human tuberculosis. Hericourt's investigations demonstrate the interesting fact that if dogs are vaccinated with a culture of aviary tuberculosis, they become refractory to the human form, and their serum acquires an antitoxic property towards the latter. Dieulafoy has obtained some good results in the application of this serum to the treatment of tuberculosis of which we are undoubtedly destined to hear more.

Further researches may prove that in serotherapy we may find the very best weapon against syphilis. Tommasoli has treated this disease by the injection of serum taken from animals normally refractory to syphilis, such as sheep and calf. He injected from four to eight cubic centimeters at a time, in the gluteal region of his patients, who numbered thirteen, and suffered from manifest forms of secondary syphilis. An average number of six injections was made in each case. The specific manifestations disappeared within a fortnight in every instance, and the patients, all of whom were observed for periods ranging from four to seven months after the treatment have so far shown no return of the disease. Some disturbances, such as local pain at the site of injection, slight febrile movements of a transitory nature, usually resulted, especially when the dose was larger than 4 c c., but were not severe enough to constitute a contra-indication to the employment of this treatment. Pellizzari and others, especially in Italy, have also made investigations in the same direction, which tend to show that in the near future we shall be placed in possession of a royal road to the cure of this frightful malady.

Bruschettini, in investigating the biology of influenza, found a microbe similar to that which had been described by Pfeiffer, and which required, for its artificial growth, the presence of a certain quantity of blood in the culture media. He obtained immunity in animals by injection of this culture after filtration, and found that their serum possessed marked curative properties; it will cure in very small doses an animal which otherwise would die in five or six days, even when administered as late as forty-eight hours after the inoculation. When given before the inoculation 25 milligrammes (gr. $\frac{1}{3}$) of this serum is sufficient to immunize a rabbit weighing one kilog.

In cholera, Lazarus has demonstrated the fact that the serum of people who have just recovered from the disease can protect guinea-pigs in which a pure culture is inoculated within the peritoneum.

With reference to typhoid fever, it has been found by Bruschettini that a high degree of immunity could be conferred by the inoculation of cultures attenuated by being submitted to a temperature of 60° C. (140° F.) or of old cultures in broth and gelatin. The serum of animals thus protected showed strong bactericidal properties and a powerful antitoxic action upon cultures of typhoid bacillus.

Anthrax was one of the first diseases which furnished data for serotherapy. Ogata and Jasuhara, of Tokio, discovered that the blood of an animal rendered immune against anthrax would neutralize the toxic products of anthrax bacilli, and their discovery has been repeatedly confirmed.

This brief review of the subject shows that as yet, syphilis is probably, of all infectious diseases, the one most amenable to serotherapy.

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The preparation of the serums that are employed, whether prophylactically or curatively, demands, of course, the most rigorous and precise application of the laws of asepsis. It can easily be understood that the slightest error in this regard might easily cause various forms of infection which might prove fatal.

From the larger animals, the blood may be received directly within a sterilized pipette, the end of which is introduced within a blood vessel. After removal the pipette is sealed by heat. The serum is then allowed to separate at a low temperature, and, as a last stage, microscopical and culture tests are made to ascertain its freedom from infectious germs. When smaller animals are used, in which the calibre of the blood vessels is too small to allow of this procedure, the blood is allowed to flow into a sterilized vessel, and the serum, once separated and collected, is sterilized under pressure of carbonic acid gas or by any of the methods recommended by Koch and others.—G. G. Van Schaick, M.D., in the New York *Therapeutic Review.*

Points in the Etiology of Cancer.—Dr. Rubert Boyce (London *Lancet*) groups the questions for investigation concerning cancer thus:

THEORY OF COHNHEIM.—Cohnheim took the broad view of growths in general; he watched the growth of the congenital tumor and observed that it frequently started from places where peculiarities of development were known to occur, and suggested that forces, some of which we may picture to ourselves as allied to those which occur at puberty and the menopause, acted upon these developmental freaks and started their growth. Examples may be seen in the branchiogenous epitheliomata, chondromata, dentigerous cysts and warts, the tumors derived from the accessory thyroids and suprarenal rests, and the numerous vestigial-structures in the vicinity of the ovary. It is very difficult to persuade ourselves that these out-of-the way "rests" or remnants would have been especially singled out by a locally acting irritant, be it parasitic or otherwise. The histological peculiarities of these congenital growths may be thus tabulated, and they are striking: 1, origin from a minute point; 2, architectural regularity; 3, encapsulation; 4, characteristic stroma; and 5, absence of leucocytic infiltration.

SIGNIFICANCE OF METASTASIS.—The secondary growths are stamped to a great extent with the characters of the primary; in the case of the epithelioma of the skin there may be the typical horny nests in the nearest lymphatic glands. The same repetition of structure is brought out in the remarkable cases of multiple thyroid tumors. A great deal, however, still remains to be done in order to make sure that we are dealing with true dissemination of the original growth. The spreading tumor, or secondary growth, causes atrophy of the surrounding structures; it does not infect them or possess any "spermatic" influence over them so far as we are aware. The secondary growth is a graft of the primary; compared with the microbic granulomata, it is here a question of the living bacillus setting up new tissue reactions wherever it lodges. It is not the reaction of tissue or tumor produced by the bacillus which is comparable to the cancer graft; it is rather the living cancer cell itself which is locally multiplying that is comparable to the bacillus—indeed, the reaction produced in the tissues by the cancer cell is often quite similar to that produced by a bacillus or other foreign parasite. In the cancer cell, as in the bacillus, the property of multiplication resides, only it is assumed by some that in the former a something foreign resides—a parasite—which stimulates it to growth.

RELATIONSHIP OF IRRITATION TO CANCER.—This relationship is surely established, much being due to Thiersch, Suchard, Volkmann, Butlin, and others. Examples are: the skin cancers in the case of soot-sifting tar and paraffin working, in lupus and syphilis. Further, most important examples are furnished by the pre-cancerous conditions—psoriasis lingualis, psoriasis laryngis, seborrhea senilis, etc—and the cancers starting in the lung, stomach, liver, kidney, breast, etc., in chronic inflammatory conditions of those organs. Animal parasites may arouse by their long irritating presence pre cancerous and even cancerous changes, just as in the case of the pipe and lip-carcinoma; examples may be seen in the case of coccidia, distoma, bilharzia, and even echinococcus. In none of these cases are we in a position to state how the long standing irritation, producing at first a reactive hyperplasia, finally leads to malignant overgrowth. There is no evidence. The irritation tumors are thus characterized: (*a*) wide origin, (*b*) irregularity, and (*c*) production of considerable tissue reaction around them, such as the formation of granulation and scar tissue and leucocytic migration.

SIGNIFICANCE OF MULTIPLE PRIMARY CARCINOMATA. The multiple primary carcinomata may be divided into two classes: (*a*) those of the same type, arising in the same organ, as in the breast, skin, stomach, etc; (*b*) and those of different types, arising primarily in different organs. In the first class may be included the so called "cancers by contact." There are very numerous examples of multiple primary cancers, and that this is so will be readily understood from the preceding paragraph on the relationship of irritation to neoplasis. Thus a wide area is affected by the pre-cancerous change, and from more than one point in that area a cancer proceeds. This explains a bilateral carcinoma of the tongue following psoriasis linguæ. Its significance is perhaps the most important of all from a surgical standpoint. It was long ago pointed out by Langhans that cancer of the breast may originate at many points; it may originate primarily in both breasts. The meaning of this is seen, for instance, where a tumor is completely removed, so-called "recurrence" taking place months or years afterwards, not from cancer tissue which was left behind, but from epithelium which was pre-cancerous (local predisposition of Thiersch). The tumor and the conditions around in

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which the *Krankheit erreger* flourish must be removed. A large number of the "cancers by contact" are readily explained by the pre cancerous change, (Bucher 1893) and the rest by complex metastasis.

Significance of Inoculation Experiments.—The experiments of Novinsky, Wehr, Hanau, Klebs, and others only demonstrate that grafting may be performed. They are, however, exceedingly interesting and of wide reaching importance. The graft of normal tissue, in the majority of cases, atrophies; the cancer graft may increase.

The Significance of Cultivation Experiments.—The results of these experiments prove very little.

Nature and Significance of the Appearances Found in Cancer Cells.—This very interesting side of cancer has been taken up with much vigor, and both the nucleus and the cell contents have attracted much careful attention. Laveran's corpuscle and the coccidium of the rabbit have done much towards turning the attention of observers to the presence of animal parasites in cancers. Animal parasites are now coming to occupy their important place in pathology: we need only mention surrah, ameba, and plasmodium malariæ. Very much has been written, the last set of observers very often contradicting the first set; it is thus in mol luscum contagiosum and Paget's disease. More careful work has, however, demonstrated numerous irregularities in the cancer nucleus, increase and decrease of nuclear substance, fragmentation, etc. In the cancer cell itself numerous perinuclear bodies have been described, striking enough to be considered by some most careful workers as genuine parasites, and by others explained away as derivatives of the nucleus—endogenous cells. The photographs (exhibited) show that it is not an easy question to solve; there is no reason why parasites like bacilli should not be present in cancer, and it will be a great gain for those who succeed in placing it beyond doubt that we are dealing with parasites.

Tuberculous Pleurisy.—The following is reprinted from the "Transactions of the Massachusetts Medical Society," being the Shattuck lecture for 1893 (Wm. Osler):

Of 101 cases of pleurisy examined post mortem, thirty-two were definitely tubercular, and thirteen existed in patients with tubercular lesions of the lungs without any definite proof of the tubercular character of the pleurisy. By far the commonest forms of pleurisy were sero-fibrinous exudation, secondary to acute disease of the lungs, or occurring at the termination of chronic affections of the heart, arteries, or kidneys. The author recognized the following clinical types:

1. Acute Tubercular Pleurisy.—These are rarely fatal, a large majority completely recovering, a few becoming chronic, and a variable number developing tuberculosis of other organs later. These may be divided into three groups: (*a*) Acute tubercular pleurisy with subsequent chronic course may set in acutely without anything to suggest tuberculosis. After a series of tappings the patient may recover, with evidences of thickened pleura. Recurrence and ultimate infection of the lungs may occur. (*b*) Secondary and terminal acute tubercular pleurisy may occur in the course of pulmonary tuberculosis, or at the end of some chronic disease, *e g.*, of the heart, arteries, or kidneys, or cirrhosis of the liver. In the latter there is generally found a tuberculous lesion of the apex or of the bronchial glands. (*c*) Acute tubercular suppurative pleurisy running a rapid course.

2. Subacute and Chronic Forms.—(*a*) With serofibrinous exudation. This is by far the commonest, and may occur as a complication of well marked tuberculosis elsewhere (*e.g.*, in lungs), or be the only obvious lesion; though, in the latter case, a tubercular focus generally exists in the lungs, bronchial glands, or peritoneum. This is a very important class of cases, as the onset is generally insidious, and the character of the disease often overlooked. A certain number ultimately died of pulmonary or general tuberculosis. (*b*) With purulent exudation. Generally subacute in onset and chronic in course. (*c*) Chronic adhesive tubercular pleurisy, with enormous thickening. It is generally preceded by tuberculosis of bronchial glands. The thickened layers may unite in their whole extent from a solid membrane with patches of softening, or a space may be left below filled with fluid. The process may extend into the lung.

3. General Serous Membrane Tuberculosis.—A group of cases in which the serous membranes are affected, either simultaneously, or, more generally, one after the other, the pleuræ being usually secondary to the peritoneal affection. (*a*) Acute tuberculosis, with rapid evolution of disease in the pleuræ and peritoneum generally consecutive to disease of the tubes in women, or of the bronchial or mesenteric glands. (*b*) More chronic. Exudation occurs into the pleuræ and peritoneum, with caseation, ulceration, and suppuration. (*c*) Still more chronic, with much fibrosis and little exudation. The course of these serous membrane tuberculoses is often very chronic, with periods of great improvment, and with little or no fever.

As regards the treatment of pleuritic effusion, the author believes in a dry diet combined with cathartics and diuretics. Aspiration he recommends at the tenth day, if the fluid still reaches the level of the fourth rib. Counter-irritation he strongly advocates. Pulmonary gymnastics, by means of Wolff's bottle, are useful when there is much thickening of the pleura.

The Increase in the Microbicide Power of the Blood during Infection.—Dr. Gatti describes some experiments undertaken with the view of elucidating this point. The existence of a microbicide power in the blood and serum is generally admitted, and research is now directed to the discovery of its relation to susceptibility or otherwise to infectious disease. The present researches have been directed, not only to

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a demonstration of the existence of a microbicide power during infection, but also to the modifications which this power undergoes in a given animal during its passage from health to a condition of infection. Omitting the details of the experiments, the author's conclusions are as follows (*Brit. Med. Jour.*):

1. A moderate degree of hydremia, such as is produced by the extraction of blood, does not modify the bactericidal power of serum.

2. Serum represents a much more constant means of seeking bactericidal power than defibrinated blood, the results with this latter being inconstant, as has also been found by Kruse and Pansini.

3. The bactericidal power of blood increases during infection; this increase is more marked in animals which during health do not show a very great bactericidal power.

4. In the later phases of infection the microbicide power diminishes.

5. The blood destroys not a determinate quantity of bacteria, but a given percentage of the bacteria introduced.

6. There exist markedly different degrees in the bactericidal powers of different animals, even of the same species and for the same micro-organism.

7. In the latest phases of infection the bacteria introduced into the blood disappear but slowly and incompletely, as compared with what happens in the earlier phases or in the healthy animal.

8. In many animals the serum does not at once manifest its bactericidal powers, but there is first a period of one or two hours during which the bacteria introduced can increase. The most important fact elucidated is undoubtedly the increase of bactericidal power during infection. The conditions of experiment, moreover, render it unlikely that this result can have been due to extra-vascular modifications of the blood; it is a true vital phenomenon. Its increase during infection, at a time when the organism is reinforcing itself against the invading microbe, and the coincidence of its diminution with the time which, as it were, succeeds the successful battle, make it probable that there is a very intimate connection between this power of the blood and immunity.

The Eye Treatment of Epileptics.—Ranney (New York *Med. Journ.; Philad. Polyclinic*) reports twenty-five cases of epilepsy subjected to careful treatment for the relief of muscular and accommodative strain. He concludes: In epilepsy an examination of the eye (for errors of refraction) and of the eye muscles (for heterophoria) is the first and perhaps the most important step toward a search for sources of reflex nervous disturbance.

No final conclusion should be reached regarding the presence or absence of heterophoria until sufficient time, patience, and skill have been bestowed upon the investigation by one who is thoroughly familiar with and practices the later methods for the determination of "latent" heterophoria.

All preparations of bromides and other drugs that tend to control the seizures should be witheld, as a rule, from an epileptic patient until all possible sources of reflex irritation have been scientifically sought for and as far as possible relieved. He emphatically protests against the prevalent system of drugging epileptic patients from the date of the appearance of the first fit without any attempt being made to ascertain what the causes of the epilepsy may be.

He strongly advocates the employment of atropine in every case before a final decision is reached regarding the refraction of an eye. He believes in the use of the full correction of astigmatism and as near as full correction by spherical glasses of any latent hypermetropia as the patient can be made to tolerate. He has observed many cases of chronic epilepsy that have been relieved of all convulsive seizures so long as the full effect of atropine upon the ciliary muscle was maintained.

No promises that absolute cure can be effected by eye treatment should ever be made to an epileptic, but it is usually safe for the physician and patient to hope that a radical correction of marked heterophoria and abnormal refraction will eventually be followed by decided and permanent benefits.

The results in all cases thus far treated by him seem to warrant the conclusion that at least ninty per cent, of chronic epileptics have been better without bromides after a satisfactory correction of their eye defects, than they ever were when subjected to the influence of drugs.

In cases where negative results have been observed in spite of a satifactory investigation and correction of marked heterophoria and abnormities of refraction, he would deem it wise before resorting to drugs for epileptic seizures to search for other sources of reflex peripheral irritation (such, for example as bad teeth, phimosis, rectal or uterine disease, scars, etc).

The treatment of hetrophoria by prismatic glasses alone is not curative; nor, in his opinion, are very marked benefical results to be expected from them. Prismatic glasses are valuable aids, however, in determining the existence and amount of "latent" heterophoria prior to the radical correction of such defects by graduated tenotomies.

The duration of the eye treatment of epilepsy varies with the eye problems encountered. The establishment of orthophoria is not commonly effected in epileptics inside of one year; and long intervals of rest between the surgical steps may be demanded and thus extend this limit of time to two or even three years.

Too much stress cannot be laid upon the importance of accurately centering all spherical and cylindrical glasses to the pupils when prescribed. An imperfectly fitted frame may prove a source of great injury to the patient. Moreover, a decentered glass may often lead a careful observer into serious error respecting heterophoria.

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The objections that are raised before patients by many physicians and some oculists to the performance of a graduated tenotomy upon the eye muscle "because of its risk, danger of overcorrection, etc.," too frequently cause unnecessary alarm and often prevent patients from obtaining the relief that is within their grasp, and which prismatic glasses have not and will not afford.

Fevers Without Fever.—Such attacks, says a correspondent of the *Journal des praticiens*, have been noticed before now, especially in scarlet fever, malarial seizures, and typoid fever, running their course with a subnormal temperature. Influenza presents this abnormal occurrence, as M Teissier, of Lyons, has often proved. He it is who has now drawn the attention of one of the societies to pneumonia running its course without fever. A patient in his service at the Hotel Dieu complained of all the symptoms of pneumonia, but the temperature remained low, almost subnormal, and did not begin to rise until about the sixth day—*i.e.*, at the time when the convalescence began. From this time on the thermometer remained above normal. This is the cause of temperature which M. Potain has noticed in an apyretic form of typhoid fever. To interpret facts of this sort, it has been imagined that there might be secreted by the germs pathogenic products that were sometimes pyretogenous and sometimes refrigerant, and in support of this idea reference has been made to Roux's and Pittion's experiments in injecting the urine of influenza patient into animals, those of Rodet and Coumont with the products of staphylococcus, and those of Charrin, Gilbert, and Boix with those of the *Bacillus coli* and of Eberth's microbe. Such an explanation is not wholly satisfactory to M. Teissier. He thinks it more probable that this reduction of temperature is due to the retention of products of cellular nutrition under the influence of the action exerted by the infectious germs. He compares these occurrences to those which rheumatic and gouty persons experience after overeating or exposure to cold and dampness (lassitude, local congestions, and heat of the skin, but with a reduction of the temperature below normal). A practical remark remains to be made. In these cases M. Teissier employes quinine, and that drug raises the temperature. This has the apparance of a paradox, since no reason can be given for it, but it is none the less real and practically useful. At all events, adds the correspondent, clinicians cannot be to much encouraged to give attention, as M. Teissier has done, to instances of the sort.—N. Y. *Med. Journal.*

Subcutaneous Injections of Salt Solution, Employed as Diuretics, Particularly in the Treatment of Albuminuria of the Puerperal State.—Porak and Bernheim. (*Nouvelles Archives d' Obstetrique*, May 25, 1893.) It has been demonstrated by experiment, that the use of chloroform determines a sometimes abundant, transitory albuminuria. Therefore chloroform can not be employed without danger in combatting the symptoms of puerperal eclampsia. The purgatives have too slow and too short an action. Diaphoresis is subject to the greatest possible objections.

In the treatment of albuminuria it is important to insure the renal function either in curing the lesion itself or in maintaining the function. The first is very difficult; the maintenance of the function can be brought about by the use of diuretics; these are often toxic; it must then be determined whether diuresis cannot be produced by introduction of water into the organism.

The authors have used water with the addition of seven and one-half grammes of chloride of sodium to the litre (a .75% solution). It is necessary to inject abundant quantities—500 to 1,000 grammes at one time. The greater the quantity injected the greater the assurance of diuresis. One thousand five hundred grammes of liquid can be injected in eight hours by four injections.

Six observations complete the work. In the first, the quantity of urine, which was nihil, was carried in twelve hours to 500 grammes; for the twelve hours following to 600, for the next twenty-four, to 1,200 grammes, where it was maintained for three days, falling afterward to 1,000. Observation II. They injected 1,300 grammes in two sittings. Observation III. Urine 750 grammes after first injection of a litre, then reached 1,200 grammes. This result was obtained in the other cases, varying only slightly in the figures.

This question, though treated by the authors from a special point of view, enters nevertheless into the therapeutics of albuminuria in general and into the use of diuretics in cases of nephritis other than puerperal

SURGERY.

Abdominal Sinuses and Fistulæ.—John B. Hamiltion, M D., LL.D., (*Matthews Quarterly*, Jan. 1894): Before the days of aseptic surgery the abdominal sinus or fistula was among the approbria. The poor patient was condemned to live with an additional opening somewhere on his cutaneous surface, and there was little to be promised him in the way of cure. The deep fecal fistulæ were considered quite beyond reach although the superfical ones were reached and sometimes cured by the method of Dupuytren.

First of all, let me define the word sinus as a fistulous tract extending from some former abscess cavity to the surface of the body. According to the site of the abscess and various circumstances this tract may be long or short, tortuous or direct; but in any event it always has a closed extremity. The word fistula is held to mean a fistulous tract having two open extremities, one on the cutaneous surface of the body and the other on some mucous or serous surface. The sinus is therefore a tube sealed at its inner extremity, and the fistula an open tube. The sinus tube conveys pus, and usually liquefied tubercle, and the fistual tube conveys pus

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plus the serous, mucous, or excrementitious matters found at its inner extremity. The treatment of the two conditions therefore differs, the one perhaps involving simply drainage, and the other frequently involving a complicated enteroplasty, cystoplasty or vesicoplasty.

If we examine the relative causation of these affections, we shall find that the sinus may be the result of a psoas abscess, perinephritic abscess, splenic abscess, hepatic abscess, a degenerated tumor, or the result of an antecedent operation; in either case there has been imperfect drainage of the original pus collection, and the formation of a pyogenic granulation surface along the sinus tract. The origin of the fistula is different—the ordinary fistula in ano, for example. In this condition there has sometimes been a direct tubercular infection of the rectal wall and direct extension into the tissues. In these cases the tubercle bacilli are seldom found alone; they are usually accompained by several varieties of pyogenic microbes. In other cases there has been an invasion of the loose connective tissue adjacent to the rectum by the ordinary pyogenic microbes; an abscess results which points externally and into the rectum at the same time. The ischio rectal abscess is not very often, according to my ovservation, the cause of fistula in ano. Much more frequently this condition is the result of tubercular disease of the ischium, opens externally, and remains as a large sinus with ragged and undermined edges. The deeper abdominal fistulæ most frequently result from tubercular abscess of the mesentery, tubercular disease of the intestinal glands, tubercular disease of the liver, or accidental traumatic causes.

A New Treatment For Tuberculosis of the Joints and Skin.—In the Edinburgh *Medical and Surgical Journal* for February, 1884, Mr. A. G. Miller reports the results of his treatment of strumous affections by means of passive congestion (*Med. Rec*). The treatment originated with Dr. Bier, of Kiel, one of Esmarch's assistants. It was suggested by the old belief, supported by Rokitansy, Laennec, Niemeyer, and Fagge, that "all cyanosis is incompatible with tuberculosis." This dictum, though originally applied to the lungs, was though to be equally true for joint and skin tuberculosis.

The technique of the method is simple. It consists in placing a broad elastic band round the effected limb, a few inches above the diseased part, firm enough to produce venous congestion. Bier recommends that this congestion should be kept up continuously, and that the patient should be permitted and even encouraged to use the limb. The elastic band should be broad, and a layer of lint or wool should be placed under it to protect the skin. The point of application should also be changed every day or two to prevent abrasion. The distal portion of the limb is supported by a common roller up to the effected part, so that the congested area is limited to the immediate neighborhood of the disease.

No other apparatus or treatment is employed by Bier in his cases. As an example of the method of application, take a case of disease of the elbow-joint. The hand and forearm are bandaged, then the elastic is applied to the middle or lower third of the upper arm, firm enough to produce congestive discoloration of the neighborhood of the elbow. Congestion is what is wanted, not edema, still less anemia. Pain is never caused, and if the compression be uncomfortable at first, the patient soon becomes accustomed to it.

An account of Bier's method is given by him in the *Centralblatt f. Chirurgie.*

He records upward of twenty cases that were treated in Professor Esmarch's wards at Kiel by this method, and reports that "in most of the cases the improvement attained was very rapid and striking, and in no case did a change for the worse occur.

The method was first tried in London by Hr. Herbert Page, who came back from Kiel with much enthusiasm over the results he had seen.

The plan employed by Mr. Miller at first was to put on the elastic compresser for only ten or twelve hours every alternate day—that is to say, the bandage was put on in the morning and removed at night, and left off altogether for fifty six hours. He was afraid to risk the continuous congestion of the limb.

His experience was that venous congestion was quickly produced and maintained without any discomfort to the patient. Edema was seldom seen. He always employed some other apparatus, however, for supporting or fixing the diseased part when a joint was affected. Improvement occurred promptly both in joint and skin affections, but more surely in the latter class of cases. Although Mr. Miller had used the method for about six months, he speaks cautiously regarding it, since, as he says, he did not have time enough to watch the results of a congestion treatment alone. He prefers the alternate to the continuous treatment, and he thinks is justified in recommending its use in:

1. Tubercular skin affections of the extremitis.
2. Early tubercular disease of joints (combined with immobilization or blisters), especially those in which time is of no great importance.
3. Instances of multiple tubercular disease, in which more radical treatment is inappropriate.

A Sterilization Stamp.—Doctor H. Hocheegy in a recent number of *The Wiener Klinische Wochenschrift* described a methods whereby he can assure himself that articles of dressing have been sterilized. He uses yellowish-brown marking fluid which has the property of becoming bright red on exposure to the temperature of boiling water. If the sterilization is complete, the yellow spots with which the dressing has been marked become red. The coloring matter consists of one hundred and fifty parts of a solution of aluminum acetate, one hundred and fifty parts of water, and five parts of a twenty-one per cent alizarine paste.

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NOTES AND ITEMS

The Congress of American Physicians and Surgeons.—The officers of the congress, which is to be held in Washington on May 29, 30, and 31 and June 1, are as follows: President, Dr. Alfred L. Loomis of New York; vice presidents, *ex officio*, the president of the American Ophthalmological Society, Dr. George C. Harlan, of Philadelphia, the president of the American Otological Society, Dr. Gorham Bacon, of New York, the president of the American Neurological Association, Dr. B. Sachs, of New York, the president of the American Gynecological Society, Dr. William T. Lusk, of New York, the president of the American Dermatological Association, Dr. Bobert B. Morison, of Baltimore, the president of the American Laryngological Association, Dr. D. Bryson Delavan, of New York, the president of the American Climatological Association, Dr. Andrew H. Smith, of New York, the president of the Association of American Physicians, Dr. Reginald H. Fitz, of Boston, the president of the American Association of Genito urinary Surgeons, Dr. George Chismore, of San Francisco, the president of the American Orthopedic Association, Dr. A. M. Phelps, of New York, the president of the American Physiological Society, Dr. Henry P. Bowditch, of Boston, the president of the Association of American Anatomists, Dr. Harrison Allen, of Philadelphia, the president of the American Pediatric Society, Dr. James H. Keating (deceased) of Colorado Springs, the president of the American Surgical Association, Dr. J. Ewing Mears, of Philadelphia; chairman of the executive committee, Dr. Landon Carter Gray, of New York; treasurer, Dr. John S. Billings, of the army; secretary, Dr. William H. Carmalt, of New Haven.

The meetings of the congress will be held in Metzerott's Music Hall, corner of Twelfth and F Streets, N. W. The preliminary programme is as follows: Tuesday, May 20.—3 P. M.: Congress opened by the chairman of the executive committee. From 3 30 to 5 P.M: General session of the congress under the direction of the Association of American Anatomists. Wednesday, May 30—From 2 to 3 30 P. M.: General session of the congress under the direction of the American Climatological association. From 3.30 to 5 P. M.: General session of the congress under the direction of the American Dermatological Association. 7 P. M.: Dinner to the guests of the congress at the Arlington Hotel. Thursday, May 31.—From 2 to 3.30 P. M.: General session of the congress under the direction of the American Association of Genito-urinary Surgeons. From 3 30 to 5 P. M.: General session of the congress under the direction of the American Gynecological Society. 7.30 P. M.: Address by the president of the congress, Dr. Alfred L. Loomis, on The Influence of Animal Experimentation on Medical Science. To be followed by a reception. Friday, June 1.—1 30 P. M.: Business meeting of the congress. From 2 to 3.30 P. M: General session of the congress under the direction of the American Laryngological Association. From 3.30 to 5 P. M. General session of the congress under the direction of the American Neurological Association.

SUBJECTS FOR DISCUSSION.—By the Association of American Anatomists: Morphology as a Factor in the Study of Disease. Opened with a paper by Dr. Harrison Allen, and discussed by Dr. Thomas Dwight, Dr Frederic H. Gerrish, Dr. Frank Baker, and Dr. Burt G. Wilder. By the American Climatological Association: Sewer Gas. The Bacteriology, by Dr. Alexander C. Abbott; As a Cause of Disease, by Dr. Abraham Jacobi. By the American Dermatological Association: The Distribution and Control of Leprosy in the United States. The Distribution. Opened with a paper by Dr. J. Nevins Hyde, and discussed by Dr. W. A. Hardaway and Dr. James E Graham; The Prophylaxis and Treatment, with a paper by Dr. J. C. White and discussed by George H. Fox, Surgeon-General W. C. Wyman, U. S. M. H. service and Dr. Joseph D. Bryant. By the American Association of Genito-urinary Surgeons: Nephritis in its Surgical Aspects Opened with a paper by Dr. Edward L. Keyes, of New York, followed by a paper by Dr. George M. Sternberg, Surgeon General of the United States Army, on the Bacteriology of Nephritis, and discussed by Dr. George Chismore, of San Francisco, Dr. L. Bolton Bangs, of New York, Dr. Francis S. Watson, of Boston, and Dr. W. N. Wishard, of Indianapolis. By the American Gynecological Society: The Conservative Surgery of the Female Pelvic Organs. Papers will be read by D. W. M. Polk and Dr. W. Goodell. By the American Laryngological Association: The Surgery of the Accessory Sinuses of the Nose. To be discussed by Dr. F. H. Bosworth, of New York, Dr. J. N. Mackenzie, of Baltimore, Dr. J. H. Bryan, of Washington, Dr. J. O. Roe, of Rochester and others. By the American Neurological Association: The Influence of Infectious Processes on the Nervous System. Pathology and Etiology, by Dr. J. J. Putnam, of Boston; The Relation to General Nervous Diseases, by Dr. E. C. Seguin, of New York; the Relation to Mental Disease, by Dr. Charles K. Mills, of Philadelphia; and The Therapeutics, by Dr. F. X. Dercum, of Philadelphia.

The Approaching Cholera Conference at Paris.—The Extinction of Cholera.—M. Hanotaux, Minister Plenipotentiary, Director of the Consulates of France, and delegate of France at the forthcoming International Cholera Conference at Paris, has stated to a representative of the French press, in a published interview, the precise object and anticipated results of this Conference. The Conference, he states, will occupy itself with tracking the cholera to its seats of origin—that is, Asia and India, dealing especially with the Meccan pilgrimage; the principal question laid before the Conference is to find thus "the examination

of the Asiatic origin of cholera, and the measures to be taken relating to the defence of Europe against this scourge." Without prejudging the results, M. Hanotaux has reason to hope that the Sultan and the Czar of Persia will assist in arresting the development of cholera at its Asiatic ports of entry and posts of reinforcement. "The English," he observed, "are especially interested, since they hold both ends of the inlet and outlet, India and Egypt." M. Hanotaux continues as follows: "The Conference builds largely upon the assistance of Great Britain, for one of the most brilliant European hygienists, Mr. Ernest Hart, has denounced Mecca as a main centre from which European cholera spreads, in an address of widespread influence. He has pointed out that Hagar's well, where the Mussulman pilgrims wash and drink, is nothing better than sewer water; in one day (June 26, 1893) there were 500 deaths at Mecca from drinking this water. Let the pilgrims die for the glory of Mahommed, that is their affair, but they spread the cholera to the rest of the world, and they must be prevented from making us that present. The Paris Conference will mainly occupy itself with this object; it will not be far from agreeing with the English sanitarian, Mr. Ernest Hart, in saying that the extinction of epidemic cholera in Europe may be secured without great difficulty. There are two ways of attaining this result; to ensure everywhere perfectly pure drinking water, and meantime put an end to the cause of insalubrity of the Meccan pilgrims. It will agree with him that outside of this all measures are illusionary; fumigations, railway and frontier quarantines, powderings and antiseptic fluids, are only vain ceremonies, simple sacrifices to popular ignorance, the idolatrous homage which dirt pays to cleanliness. The prime focus of cholera is India; its gates of invasion are the Indian fairs and the Meccan pilgrimage. Mecca is the reinforcing station of cholera between the Gulf of Bengal and Europe; it is there especially that the chief danger lies."

The measures, therefore, which the International Conference on Cholera at Paris will be called upon to resolve are, M. Hanotaux announces, those indicated by Mr. Ernest Hart in his addresses at Edinburgh and in America. "Thus we shall undoubtedly instal medical posts and posts of inspection at two points, which he points out as the most important to be watched—Thor and Camaran. Every ship and every caravan of pilgrims will be accompanied by a medical staff furnished with all that is necessary for the purification and disinfection of the sick. The Conference will consider resolutions as to the necessary reorganization of the sanitary service of India, the regulations of the great fairs of that country, the organization (as suggested by Mr. Hart) of a system of inspection of the pilgrims before leaving the Indian ports, and the curatorship of the sacred wells in which the Mussulmans bathe and drink at the same time." To carry out this, M. Hanotaux concluded, "will be to win a decisive victory over cholera; such a battle is well worth waging."

The following are the delegates for the Paris Sanitary Conference which will take place at Paris.—For France: MM. Barrere, Hanotaux, Brouardel, Proust, Monod. For Germany: MM. von Schœn and Mordtmann. For Austria Hungary: Count Kuefsten, Dr. Hagel, Dr. Karlinski. For the United States: Drs. Edward Sakespeare, Stepton Smith, and Preston Bailhache. For Greece: M. Criesis, and M. Vafiader. For Italy: The Marquis Malaspina, and Dr. Pagliani. For Portugal: M. Navarro. For Sweden and Norway: M. Due. For Turkey: Turkan Bey, Nouri Pasha, Bonkowski Pasha, Dr. Hamdy Bey. For Persia: A delagate nominated by the Minister of the Shah in Paris. For Egypt: Achmet Choukry-Pasha, M. Mieville, and Sedky-Pasha.—*British Medical Journal.*

Vivisection.—The American Association for the Spread of Knowledge upon the Extent and Existing Methods of Vivisection asks the assistance of the medical profession in its efforts to prevent the infliction of unnecessary suffering on the animals used in the laboratories, in class demonstation, and by medical student. "Believing on good evidence which we shall be happy to submit to you," says a circular issued by the association, "that vivisection is often practiced in a needlessly cruel manner, convinced that many abuses exist which could be reformed without any loss to science, knowing that the young student passes through a period of insensibility to the sight of suffering, a condition from which the mature physician is fortunately exempt, we solicite your co-operation in our efforts to save animals from useless torture. We feel that our best suggestions and our most effective help must come from the medical profession itself, especially from those eminent physicians whose labors in the service of humanity give their works and example an authority which would do much toward abolishing the evils to which we venture to call your attention." This is most temperate and reasonable, and we feel that the association ought to be accorded the hearty co-operation of physicans. The secretary's address is No. 58 West Fifty-seventh Street.

The Medical Profession in Holland.—The curious story comes from Chicago that recently a Dutch physicans of that city inserted a fraudulent advertisement in a Dutch medical journal, announcing that free transportation and an income of $5,000 a year was guaranteed by the Goverment to a physician with the Dutch qualification, and requesting applicants for the place to forward their diplomas for inspection (New York *Med. Journ*). The Chicago Dutchman is said to have alleged as his reason for inserting this advertisement that when he came to this country an article had appeared in one of the Dutch newspapers saying that only the least successful of the physicians of Holland found it necessary to leave their country. It is further stated that many answers have been received by the Dutchman, but we do not see how that fact either

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proves or disproves the statement made in the Dutch newspaper, for the quality rather than the number of the applicants would have to be known to settle that question. It is suspected that the man either wished to obtian a diploma which he could parade as his own or else designed selling these diplomas to unqualified persons in quest of an opportunity to practice.

Disappearance of Gonorrheal Discharge During Pneumonia.—A. Hymason, M.D., (*Med. Rec.*): While I served as interne in the Beth-Israel Hospital, I observed a case which is similar to the one described by Dr. Bogdan in the *Wiener Medizinische Presse.*

On April 11, 1893, Nathan G——, pedler, aged 18, was admitted into the above named hospital with a pneumonia of the left lung. While giving the history he stated that several days prior to his present illness, on April 2, (about the fifth day after exposure) he had for about three days violent pain on micturition, and a profuse creamy discharge. As soon as he began to cough the discharge had gradually declined and the pain and frequent urination subsided. The patient did not consult a physician for his urethral trouble, and from his description I suspected him to have a mild case of gon orrhea. I examined him repeatedly, but no discharge has been detected. There was some redness at the lips of the meatus. The urine was of alkoline reaction; it had a specific gravity of 1.020 and contained slight traces of albumin. On the eleventh day, on the beginning of convalescence from the pneumonia, the boy called my attention to the reappearance of the discharge, which was of a real gonorrheal character, and he also had some pain on urination.

The Late Professor Billroth —At a recent meeting of American physicians in Vienna the following resolutions were adopted:

Whereas, The hand of death has fallen on our profession, and we are called upon to mourn the loss of one of its greatest leaders, in behalf of the American physicians in Vienna and at home be it

Resolved, That in the death of Professor Theodor Billroth we recognize an irreparable loss, not alone to the physicians of Europe, but to those of the world.

Resolved, That in this termination of his laborious, worthy, and brilliant career the members of his profession have lost one of their most conscientious and honored coworkers, one whose death they profoundly deplore, and whose memory they venerate.

Resolved, That we extend to the family and to the faculty of the Vienna University our heartfelt sympathy, and assure them that these sentiments will be shared by every physician in our land.

Resolved, That we be represented at the funeral by a committee, and that a copy of these resolutions be pre sented to the family and to the faculty of the univer sity.

Consumption an Infectious Disease.—A committee of the Philadelphia Pathological Society, consisting of Drs. John Packard, W. E. Hughes. G. G. Davis, F. Eshner, W. L Coplin, John H. Musser and Drs. Ball and Allyn, appeared before the Board of Health Feburary 20, and presented the following action taken by the Society relative to the infectious nature of tuberculosis:

"WHEREAS, In the opinion of the Pathological Society tuberculosis is an infectious disease, and the Society recognizes the fact that the most frequent source of infection is the human subject affected with the disease, and that there are many practical obstacles to be overcome before a generally accepted system of preventive measures can be established; therefore, be it.

"*Resolved*, That in the opinion of this Society the line of action to be followed by the health authorities should be one of education and preparation of the people for future action, that the first step in this direction should take the form of frequent and well propagated announcements to the effect that the health authorities are prepared to undertake, upon request of the attending physican, with the sanction of the family, the disinfection of premises vacated by tuberculous patients."

After the subject had been discussed by the committee, and the member of the Board, the matter was referred to the Sanitary Committee.

Patent Medicines.—A bill lately introduced into the legislature provides that every manufacturer of a patent medicine sold in Iowa shall have printed on the bottle, package or wrapper, a correct statement of the ingredients in the medicine; and that no seller of drugs shall offer for sale such patent medicines unless the formula of their preparation is printed as described. The act covers manufacturers in Iowa as well as out. By its provisions, if a manufacturer fails to comply with it he cannot sell his medicines in Iowa. The penalty for violation, whether on the part of the retail drug store keeper or the manufacturer, is punishable by a maximum find of $100 or six months in the penitentiary."

The Association of Military Surgeons of the United States.—The fourth annual meeting of the Association of Military Surgeons of the United Stated will be held in Washington, D. C., May 1, 2 and 3, 1894.

This national organization is composed of medical officers of the U. S. Army, U. S. Navy, National Guard of the United States, and the Hospital Marine Service. A brilliant and able literary programme will be presented. The afternoon of one day will be set apart for an object lesson from the "Manual of Drill," by the Hospital Corps. The evenings will be given up to social entertainments.

Anatomists Anomaly Blank.—Dr. A. Hewsen of Philadelphia has deviced an anatomists anomaly

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blank, designed for the use of dissectors in recording any anatomical anomaly that may be found. The blank has spaces for the student's name, the normal physical characteristics of the subject and for anomalies of each of the principal organs or classes of tissues, in proper order and sequence. The recording of the anatomic peculiarities occurring in the thousands of dissections made in the country would be of great scientific interest. The firm of P. Blakeston, Son & Co. will supply the blanks in any required number free of charge—inserting name of Professor or Demonstrator and of the college.

A Royal College of Surgeons, of Ireland, has elected a female fellow—Doctor Emily Winifred Dickson, of Dublin,

A Bill is before the Virginia legislature providing for women physicians for the women patients in the insane hospitals of that state.

New York Academy of Medicine.—Dr. Mary Putnam Jacobi has been elected chairman of the section on nervous diseases by the New York Academy of Medicine.

Savannah Medical Journal.—The Savannah Medical Journal Publishing Company announce a new monthly medical journal to be especially devoted in the interests of the medical profession of the Gulf States.

Prevention of Blindness.—Under the law requiring early notification of cases of ophthalmia neonatorum, a conviction of neglect has recently been secured in a case in New York A similar law has already passed one branch of the Ohio Legislature and is likely to be soon placed on the statute book of that state.

Dr. Paul Paquin.—Accurate microscopical, chemical and bacteriological analyses made promptly for physicians. Investigations limited to sputum, urine, and stomach contents for the diagnosis of the disease of the lungs, kidneys and stomach. Sterilized labeled jars and vials, and printed directions as to the best modes of gathering and submitting specimens, furnished on demand. Specimens improperly gathered are subject to contamination and will not always be accepted for analysis. They lead to long and unreliable labors.

Complete, reliable, useful reports (that patients appreciate and value) made neatly to the doctor on printed forms.

Fees $5.00, and upward. Physicians honoring Dr Paquin in submitting specimens, held responsible for remittance, unless otherwise arranged.

Laboratory and uptown office, 3603 Lindell Boulevard, from 9:30 to 11:30 A.M., and from 3:30 to 5:30 P.M. Down town, Room 361, Union Trust Building, 1:30 to 3:30 P.M.

Fetid Breath.

℞ Sennine, - - - - - - - - - - ℥j.
Alcohol, - - - - - - - - - ℥iij.
Ol. menth. pip., - - - - - - - - gtt.x
M.
Sig. Teaspoonful in a glass of water to rinse the mouth.

Hematemesis.

℞ Plumb. acetic,
Pulv. opii, - - - - - - - - aa gr.iij.
Sacch alb., - - - - - - - - - ℈j.
M. F. pulv. Divide in dos. No. vj.
Sig. One powder every three hours.

Herpes Zoster.

℞ Sennine, - - - - - - - - - - ℥j.
Pulv. zinc. oxidi,
Pulv. amyl., - - - - - - - - aa ℥ss.
M. F. pulv.
Sig. Use as a dusting powder.

Biliousness.

℞ Elixir Six Aperiens (Walker-Green's), - one bottle.
Sig. As directed.

℞ Laxative Compound (S. B. M. Co)
Sig. As directed.

Catarrh of Gall Ducts.

℞ Sodii phosphat., - - - - - - - ℥j.
Biearbonate of Soda, - - - - - - ℥ss.
Extr. tarafaci fl., - - - - - - - fl℥j.
Aq. menth. pip., - - - - - - - ℥ij.
Syr. cort. aurant., - - - - - - - fl℥j.
M.
Sig. Teaspoonful three times a day.

Epilepsy.

℞ Neurosine, - - - - - - - - one bottle.
Sig. As directed.

Gonorrhea.

℞ Ol. santal,
Bals. copaib., - - - - - - - - aa fl℥j.
M.
Sig. Twenty-five drops three times a day.

℞ Sennine, - - - - - - - - - - ℥j.
Thallin. sulphuric, - - - - - - - - ℥ss.
Aq. rosæ, - - - - - - - - - fl℥vj.
M.
Sig. Injection.

Retarded Dentition.

℞ Wheeler's Tissue Phosphites, - - one bottle.
Sig. As directed.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

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[CONTINUED.]

VII—The Uses and Relative Values of Antiseptics (Cont.)

Citric Acid.—$H_3C_6H_5O_7$ H_2O. Citric acid is a tribasic organic acid found in the juices of many fruits such as the strawberry, raspberry, currant, cherry, etc., but especially in the lemon, from which fact it receives its name. It occurs in the form of colorless crystals which are readily soluble in water. Van Ermengem determined experimentally that .5 per cent (1:200) was sufficient to kill cholera spirilla in half an hour. Kitasato found that .43 per cent killed typhoid bacilli in five hours and .3 per cent would kill the cholera germ in the same time. Clearly then the substance possesses germicidal powers which are very manifest in the case of the less resistant germs at least.

Coffee Infusion.—The experiments of Heim and Luederitz indicate that this substance possesses antiseptic and feeble germicidal power. To what ingredient this was due they did not determine but agreed that it was not dependent upon the caffein.

Corrosive Sublimate (Bi-Chloride of Mercury, Mercuric Chlorid).—$HgCl_2$. This substance occurs as a heavy white powder or in colorless, rhombic crystals or else in crystalline masses; it crystallizes from concentrated solutions in hot water in the form of acicular or needle-like crystals. When heated it fuses. It has an acrid, metallic taste and an acid reaction and is strongly poisonous and antiseptic. Is used chiefly in medicine as an antiseptic or else in the internal treatment of syphilis. It is soluble in cold water and glycerin but much more so in hot water, alcohol and ether.

Up till the year 1881 the favorite and indeed almost universal antiseptic was carbolic acid; but in that year Koch announced his belief in the superior efficacy of mercuric chlorid and the tide of popular favor surged largely in the direction of the latter drug. This action was based upon experimental evidence which seemed to indubitably demonstrate the superior germicidal power of the mercurial salt. For instance it was stated that a 1:300,000 solution would restrain the growth of anthrax *spores* while a 1:1,000 solution would destroy them. Indeed most of the authorities of the surgical world seemed convinced by the evidence brought to bear in favor of mercuric chlorid. Sternberg said that the experimental data indicated that its use for disinfection in strengths of 1:500–1:1,000 was reliable for material containing spores and in the strength of 1:2,000–1:5,000 for pathogenic bacteria in the absence of spores, but that due regard must be had for the fact that the presence of albumin very materially reduces its germicidal potency. We now know, however, that even the very strongest solution (1:500) which he gave is not able to *destroy* pus cocci and other micro-organisms, *even in the absence of spores*. We know now that its action is that of inhibition and not destruction. In the year 1883 Sternberg gave the following table of the relative values of various germicidal, or supposed germicidal, agents:

Efficient.	
Mercuric chlorid	1:20,000.
Potassic permanganate	1:833.
Iodin	1:500.
Creosote	1:200.
Sulphuric acid	1:200.
Carbolic acid	1:100.
Hydrochloric acid	1:100.
Zinc chlorid	1:50.
Tr. of Ferric chlorid	1:25.
Salicylic acid (Dissolved with borax).	1:25.
Potassic hydroxid	1:10.
Citric acid	1:8.
Chloral hydrate	1:5.

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FAILED.

	PER CENT.
Fowler's solution	40.
Sodic "hyposulphite"	32.
Sodic sulphite (exsic.)	10.
Ferric (?) sulphate (Ferrous is probably meant).	16.
Potassic iodid	8.
Zinc chlorid (liquid)	8.
Zinc sulphate	20.
Boracic acid (sat. sol.)	4.
Sodic borate (sat. sol.)	4.
Sodic salicylate	4.

In these experiments of Sternberg the micrococci of pus were used and further experimentation conducted with the micrococci of septicemia, the *Bacterium termo* and the bacteria of "broken-down beef tea" indicated that their relative values as germicides remained practically the same.

For a long time it (mercuric chlorid) was considered one of the very best of all germicides.

Even Koch in his advocacy of corrosive sublimate said that while solutions of 1:10,000, 1:20,000 or even 1:30,000 exert an inhibitory and sometimes toxic action upon germs and spores when brought into direct contact with them, a much stronger solution is required for prompt destruction. In some cases the results obtained where wholly negative; thus, fresh tubercular sputum remained infectious even after an exposure *for twenty four hours* to a solution of a strength of 1:2,000. Moreover the substance is exceedingly prone to decompose in the presence of albumin, chemically combining with it and thereby losing much of its antiseptic activity and also rendering it difficult to forecast the certainty and extent of its action when such conditions obtain.

Recent investigations conducted at the Johns Hopkins University and at the University of Michigan have shown that solutions of mercuric chlorid, when used as germicides, are often inert and still oftener actually injurious to the tissues when applied in surgical operations. A long series of experiments at the Johns Hopkins Hospital resulted in defining the limitations of the drug as follows:

1. Under the most favorable conditions, a given amount of sublimate has the power of rendering inert only a limited number of individual organisms. (It does not *destroy* them).

2. The disinfecting activity of the sublimate against organisms is profoundly influenced by the proportion of albuminous material contained in the medium in which the bacteria are present.

Kelly, Robb and Ghriskey, as well as others, have proven that even strong solutions (such as 1:500) while antiseptic and inhibitory are devoid of any *germicidal* power. Kelly says: "Corrosive sublimate solutions as strong as 1:500 are *not germicidal* after immersion of the hands from two to five minutes. The mercury salt acts either by mechanically coating or chemically combining with some portion of the coccus, thus only inhibiting further growth *until the salt is precipitated or removed.* This I have repeatedly shown to be true following both the ordinary practice of immersion of the hands from two to five minutes in 1:500 and 1:1,000 solutions after a preliminary washing for ten minutes with soap and water, and again after carefully following out Fuerbringer's method, now so generally adopted. The latter method was distinctly shown to be inefficient in almost every instance." After considerable research upon the subject he furthermore decides that corrosive sublimate, although dangerous on wounds on account of the property of coagulating and causing necrosis of the albuminous tissues, yet has the valuable property of inhibiting, not destroying, the action of those germs with which it comes in contact. Indeed Halsted has shown that the irrigation of fresh wounds by a solution of corrosive sublimate *as weak as 10,000* is followed by a distinct line of superficial necrosis which is clearly demonstrable under the microscope. Then also, its distinct toxic properties must not be forgotten for an instant; especially is this the case when the substance is to be used in intra-uterine or vaginal injection, or in the serous cavities, or in irrigation in surgical operations.

The *quondam* virtues of corrosive sublimate were founded primarily upon the dicta of Koch and other experimenters. It remained for the present decade to demonstrate the faulty conditions underlying these primary experiments upon which the reputation of the drug was founded and to show that the extravagantly high value placed upon the substance, as a direct result of such experimentation, was also faulty, not to say false. Clinical experience has demonstratad that corrosive sublimate does possess inhibitory power in a high degree, but modern bacteriological research has just as clearly demonstrated that such power is purely inhibitory and not at all germicidal in nature. Not only is its action purely inhibitory but even this action is influenced to a great degree by the conditions surrounding the application. Indeed the differences in power of corrosive sublimate under different conditions are very much greater than those of carbolic acid,—or most of the other germicides in fact. Aside from the presence of oily materials, which are distinct checks to the efficiency of corrosive sublimate, the greatest obstacle against its use in the animal tissues and fluids is the fact of its precipitation by and with albuminous substances. So great are the dimensions of these obstacles that many claim that it may be seriously doubted whether it is possible to thoroughly disinfect, with corrosive sublimate, wounds infected with bacteria. It is also doubted whether irrigation with solutions of corrosive sublimate is able to accomplish much more in the way of disinfection than is obtained by the use of *sterile solutions of common salt.*

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It is chiefly and especially to Geppert that we owe the

demonstration that the former methods of testing and ascertaining the germicidal power of mercuric chlorid were subject to such very grave errors that the results obtained therefrom were entirely untrustworthy and far from reliable. It was formerly claimed that mercuric chlorid had the power of absolutely destroying bacteria. Geppert has shown that in order to prove this not only must the germ be subjected to the action of the substance but at the termination of the exposure the antiseptic must be *thoroughly removed* from the germ; if such removal is not thorough even a slight remaining amount of the antiseptic may be sufficient to inhibit future development and the erroneous conclusion reached that the germ is dead because it does not develop. Geppert has also shown that the best means of ridding the germ of the sublimate is the precipitation of the mercurial salt by means of ammonic sulphid, or any other alkaline sulphid, in order to determine whether bacteria which have been originally subjected to the action of the sublimate have been destroyed or not When this precaution of precipitation is taken it is found that corrosive sublimate (mercuric chlorid) is far less energetic than has been generally supposed. Thus Koch believed that from his experiments he had demonstrated that corrosive sublimate in the strength 1:1,000 destroyed anthrax spores in one minute. Geppert has shown, however, that the same strength may not have killed all of the spores in watery suspension, *even at the end of three days!* Indeed in a recent article he has even shown that it is exceedingly difficult to determine with any degree of accuracy whether all of the spores are destroyed by the sublimate or not; for a definite concentration of the reagent (the sulphid) used for such precipitation is required in order to effect a complete separation of the sublimate from the germ. Hence neither failure to obtain cultures after such precipitation, nor failure of cultures, so treated, to infect an animal are proof that the germs or spores have been killed by sublimate; for a different concentration or strength of the substance used to precipitate the sublimate, or else the use of some reagent *less injurious, per se*, to the spores or germs might show that they possessed still greater resistance to the action of the sublimate, as Welch has also stated. This is exceedingly plausible when we remember that definite concentrations of the alkaline sulphids must possess some antiseptic virtues and these but reinforce the action of the sublimate, as far as the action upon the germ is concerned, although resulting in the ultimate precipitation of that compound.

Abbott has also confirmed several of these results. His recent experiences (1891) show that 1:1,000 does not always destroy *Staphylococcus pyogenes aureus*, even after five minutes exposure—in some cases requiring as much as ten, twenty or even thirty minutes to inhibit their action. In his experience the cyanid and iodid are both of higher inhibitory power—although the first is exceedingly poisonous.

In 1884 Professor Klein made the curious statement that corrosive sublimate has no more germicidal power than vinegar—such vinegar, containing from 6 3 to 7.0 per cent of acetic acid, prevented the growth and development of micro organisms just as effectually as a 1:1,000 solution of the sublimate. McClintock, of the University of Michigan made elaborate experiments with a view to testing such statements of Klein. His results strongly corroborated those obtained by Klein, Geppert, Welch, Kelly, Robb, Ghriskey and others, confirming the statement that the actual *germicide* value of corrosive sublimate is very low. Lister distinctly states that it is, as a germicide, far inferior to carbolic acid. McClintock made exhaustive experiments with various germs, using solutions of corrosive sublimate as the inhibitory agent. His results show that it is possible for germs to withstand the action of that drug as follows:

Staphylococcus pyogenes aureus:
1:1000—23 hours. 1:100—11 hours.
Saturated solution for one hour!

Bacillus subtilis:
1:1000—41 hours.
Saturated solution for eighty-five minutes!

The germ of Swine Plague:
1:200—1 hour.

Typhoid bacillus:
1:1000—1 hour.

Germs in Feces:
1:1000—24 hours.
Saturated solution for twenty-four hours!

These results fall with astounding effect upon him who sees naught save perfection in corrosive sublimate; they come home with telling force to Ephraim "who is wedded to his idols."

We may consider it conclusively proven that corrosive sublimate has comparatively low germicidal power although high in inhibitory activity. In using it we must be mindful of the following facts:

1. It is exceedingly poisonous, even in small quantities.

2. It corrodes all of the common metals, depositing upon them a thin film of metallic mercury.

3. It causes superficial necrosis when brought into contact with living tissue, even in solutions as weak as 1:10,000.

4. It unites with albuminous substances with great facility, forming an isoluble and inert (while insoluble) compound. Lister has suggested that the albuminate of mercury thus formed has antiseptic properties if rendered soluble. Laplace recommends the combination of tartaric acid with the sublimate to overcome this tendency to decompose or to combine with albumin. Others have recommended the combination of common salt or of ammonic chlorid for this same purpose.

5. It does not owe its virtue to the fact that the germ is destroyed, as is commonly believed, but simply to the fact that it prevents development of the germ *while it is present.*

6. The substance when left in contact with organic matter, such as sponges or dressings, especially in the

presence of light or heat, is prone to decompose—be coming thus inert.

Creolin (Liquor Antisepticus) —This substance is a form of *Cresol* obtained by the dry distillation of English coal. It is said to be a coal-tar product resembling carbolic acid in appearance but with an odor of tar. It appears as a black alkaline fluid of the consistency of syrup and a specific gravity slightly higher than that of water. Its odor is characteristic. It is soluble in alcohol, ether and chloroform and insoluble in methyl alcohol and water—with the latter it forms an opaque emulsion, on this account it can never supersede carbolic acid for the sterilization of instruments and the maintenance of an aseptic condition of such instruments during a surgical operation. It undoubtedly possesses decided germicidal power but is inferior in its action upon pathogenic organisms to carbolic acid—except in the case of the spirilla of cholera. It has by no means developed the high germicidal power at first claimed for it. It is a cheap and efficient germicide but is decidedly inferior to carbolic acid—especially in the presence of albumin, its efficiency being almost neutralized by the occurrence of as small a proportion of albumin as one part in one hundred. It is highly extrolled by Neudoerfer who says that it is "absolutely non-toxic to man; is ten times more germicidal than carbolic acid; is soluble in water, alcohol and glycerin; it controls hemorrhage and pain; it limits suppuration; it injures neither metal nor hands; it is very cheap." He not only enlarges upon its advantages, giving the substance properties which it never possessed, but he neglects to give its disadvantages. In the first place, it is not "absolutely non-toxic," this has been disproven by experience—Martin distinctly says that it is not only toxic but that it causes nausea, vomiting and albuminuria. In the second place, it is not as efficient, all in all, as carbolic acid. In the third place, it is not only insoluble in water but forms a non-transparent emulsion with that substance. Moreover its odor is decidedly unpleasant and the compound itself is unstable.

It has been previously stated to be a coal-tar product but is reported by Dr. F. Raschig to be nothing more nor less than a mixture containing about one part of resin soap with two parts of crude carbolic acid of about twenty per cent strength, although its manufacturers claim that it is entirely free from carbolic acid. Squibb says that its action as a disinfectant reminds one strongly of carbolic acid. He also says that unfavorable results have also been presented in regard to its use.

Creosotal.—A short name recently adopted for the so-called carbonate of creosote, which is supposed to result from the union of creosote and cardon di oxid. At ordinary temperatures it is an oily, amber-colored liquid, becoming more fluid upon warming it. It is neutral to litmus, odorless and with a faint sweetish taste of creosote. It is insoluble in water, dilute alcohol and glycerin, but readily soluble in alcohol, ether, chloroform and benzine. It is claimed that the substance contains ninety per cent of creosote and is yet free from all of the disagreeable properties of the latter drug. It is recommended in doses of ½ to 1 drachm daily, increasing to one and a half drachms or even as high as half an ounce. It is recommended especially of in tuberculous affections of the lungs, or indeed in any condition where creosote itself is applicable.

Creosote.—This substance is a product of the distillation of wood tar and resembles carbolic acid in many of its properties, more especially those of an antiseptic nature. It consists chiefly of a mixture of substances, such as creosol ($C_8H_{10}O_2$) and cresol (C_7H_8O) which are members of the phenol series. The creosote prepared from beech wood is chiefly recommended for internal administration where so used. Fully ninety per cent of the substance dispensed as "pure beechwood creosote" in drug stores is naught else than carbolic acid. The latter is eliminated chiefly by the kidneys, giving the characteristic color to urine, while creosote is supposed to be eliminated, in part at least, by the lungs.

Sternberg in his experiments upon the substance in order to determine its germicidal activity found that 1:200 was fatal to micrococci. Guttman found that it was antiseptic in its action upon pathogenic organisms in solutions as weak as 1:3000 or 1:4000, but that in such proportions it did not necessarily kill the organism. Schill and Fisher demonstrated that 1 per cent failed, even after twenty hours exposure, to destroy the *Bacillus tuberculosis* in tuberculous sputa. Yersin's experiments were somewhat confirmatory, he found that a saturated aqueous solution did not destroy the tubercle bacillus in twelve hours.

Cresin:—Sometimes also spelled *Kresin*. Crude carbolic acid consists of a mixture of cresols or phenols and would be of great antiseptic value but they are almost insoluble in water and according to Laplace are almost worthless as disinfectants on that account. In order to meet this objection Cresin, which is a solution of cresol (25%) in an equal amount of Sodic Cres-oxyl-acetate, was prepared. It is a brown liquid, said to be entirely free from carbolic acid and with an odor of Cresol and forming a clear neutral solution when mixed with water. It is said to possess antiseptic properties. It is recommended for local use in solutions of strengths of from ½ to 1 per cent. It has not as yet been recommended for internal use. Its chemical formula is $C_6H_4 . CH_3 . OCH_3 . COOH$.

Cresol.—The cresols, as Squibb says, are still used as disinfectants, but their disadvantages are of such a nature that they continue to retard their utility. The so-called "Cresol-saponate" is now recommended by German practitioners. It is prepared by mixing crude carbolic acid with melted soft soap in equal proportions to form finally a homogeneous mass which is soluble in water. This however but increases the objectionable quality inherent in all of the compounds of cresol, namely that of rendering the surgeon's hands and instruments disagreeably and dangerously slippery.

As ordinarily found cresol is a dark reddish-brown

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liquid which is transparent and rather thinner than creolin. It has the characteristic odor of tar and forms, like creolin, an objectionable and opaque emulsion with water. Behring, after a very elaborate series of experiments with the substance, concludes that it certainly has no advantage over carbolic acid.

Cresol Iodid.—This substance, also called *Ortho cresol iodid*, is another of the innumerable proposed substitutes for iodoform. It is a fine pale-yellow powder with a pronounced odor, which is agreeable in comparison with that of iodoform however; the drug is insoluble in water. The compound has not been in use long enough to give it any positive status. As Squibb says, though the compounds of cresol possess antiseptic power they all have the disadvantage of adhering to and rendering the hands and instruments extremely slippery; they also readily oxidize in the atmosphere. These disadvantages apply to all of the various compounds of cresol thus far known, such as lysol, saprol, solutol, solveol, and others.

Cresylic Acid.—The article usually sold as cresylic acid is commonly a substance of variable composition containing various cresols and also sometimes xylenols. Whatever antiseptic power it may possess is due entirely to these substances which it contains.

Cupric Chlorid.—$CuCl_2$. This substance is not in general use as an antiseptic but Miquel has determined that it is antiseptic in the proportion 1:1,428. This gives it higher power than the sulphate, which is better known.

Cupric Sulphate.—$CuSO_4$. The sulphate of copper is better known than the chlorid although its antiseptic properties are not as high as those of the latter compound. Miquel has determined that the sulphate is antiseptic in the proportion 1:11. Its action is decidedly inhibited by the presence of albumin.

Dermatol.—This term is applied to the *Subgallate of bismuth;* it contains about 55 per cent of the oxid of bismuth. It is usually represented by the chemical formula,—$BiC_7H_7O_7$. It is an odorless, yellow, saffron-like and non-hygroscopic powder insoluble in the ordinary solvents. Colasanti has made comparative bacteriological experiments with aristol, iodoform and dermatol in order to determine their relative germicidal potency. None of these agents seemed to affect dried cultures even after three days contact; but when moisture was present dermatol was effective in little more than half the time required by the other two. It also possesses remarkable dessicating powers although its antiseptic powers are in dispute in many quarters. It is chiefly used as a substitute for iodoform. It may be applied locally as a dusting powder, on gauze, in glycerin, collodion emulsion or in ointment in the strength of 10–20 per cent. It has been used internally with good results in disorders of the gastro-intestinal tract, as a substitute for the sub-nitrate of bismuth. Flint reports good results from such uses.

Diaptherin.—$(OH.C_9H_6N_2)\ (OH)\ (SO_3H)\ C_6H_4$. Also called *Oxy chin aseptol.* It occurs as a whitish or yellowish powder with an odor somewhat like that of carbolic acid and a ready solubility in water and the ordinary solvents, It is said to be an excellent antiseptic. Kronacher, Emmerich and others claim great virtue for it. Its odor is slight and it is said to be entirely free from irritating properties. It has been tried with apparent success in the treatment of wounds, sores and putrefactive disorders and many excellent reports of its virtues have been made. Unfortunately, however, it cannot be used for the disinfection of instruments for it attacks even silver and nickel plating; it also stains the hands and nails a light yellow.

Kronacher says that a one per cent solution is fully strong enough for surgical dressings,—indeed he has even used it in solutions as strong as 50 per cent.

Disinfectol.—This substance is usually termed a coal tar product similar to creolin and largely used in Germany. The statement has also been made that it is a mixture of hydrocarbons, soaps, carbolic acid and soda. It occurs as an oily, dark-brown fluid, analogous to lysol and creolin, and slightly heavier than water. It is claimed that it possesses energetic disinfectant properties but if so this has not resulted in its general use. It has been employed locally in the form of an emulsion of a strength of two to five per cent.

Beselin concludes, after having made numerous experiments with it upon typhoid stools, that while superior to creolin in this respect, it has no advantage over carbolic acid.

Essential Oils.—These have been found to possess varying values. Riedlin reports that the oils of lavender, eucalyptus, rosemary and cloves have the greatest antiseptic values of any of the essential oils. Cadeac and Meunier demonstrated that the typhoid bacilli were killed by oil of cloves in twenty-five minutes, by oil of Ceylon cinnamon in twelve minutes while oil of sandalwood required twelve hours.

Ether.—$(C_2H_5)_2O$, or $C_2H_5OC_2H_5$. This substance is too familiar to need description. Yersin found that ten minute's exposure was sufficient to kill the tubercle bacilli but Koch found that anthrax spores would germinate even after eight day's exposure to the action of the same.

Eucalyptol.—$C_{10}H_{18}O$. The essential oil obtained by distillation from the eucalyptus. When pure it occurs as a colorless liquid with an odor somewhat similar to that of camphor. It is insoluble in water but soluble in the fatty oils, in alcohol, ether and chloroform. It is said to possess marked therapeutic properties but its chief use is as a local antiseptic in ulcers.

Behring has determined that it is four times less active than carbolic acid. Perret found that a five per cent solution had no effect upon tuberculous sputa.

Recently M. Anthoine has produced a new antiseptic, which he calls Eucalypteol, by the action of hydrochloric acid upon eucalyptus oil. This substance chemically is eucalyptene di-chlorid; it occurs in colorless, scaly crystals with an odor resembling camphor. It is almost tasteless. Lafage claims that it is far superior to euca-

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lyptus oil as an antiseptic. It is practically insoluble in water and glycerin and readily soluble in ether, chloroform and alcohol, though decomposed by the latter.

EUGENOL.—Also termed *Eugenic acid*, with a chemical formula $C_6H_3 C_3H_5.OH.OCH_5$. This substance is a phenol derived from oil of cloves by oxidation; it may also be obtained from other various essential oils, such as those of sassafras, bay, pimento and cinnamon. It usually occurs as an aromatic liquid freely soluble in alcohol but only slightly so in water. The substance has been used internally as an antiseptic in doses of 45 minims *per diem*, in alcoholic solution. There is also a derivative, Cinnamyl eugenol, which occurs in colorless, odorless, tasteless crystals which are soluble in hot alcohol, ether, chloroform and acetone; it has been used in the treatment of tubercular diseases.

EUPHORIN.—This substance is also termed *Carbonate of ethyl and phenyl*, *Phenyl-ethylic urethane* and *Phenyl urethane*. It is represented by the chemical formula $C_6H_5NHCOOC_2H_5$. Euphorin must not be confounded with Europhen, which is an altogether different substance. Euphorin occurs in the form of a white powder with a slight aromatic odor and a taste like that of cloves. It is slightly soluble in water but freely so in alcohol. It is employed locally as a dusting powder; internally it is given in doses of 7–15 grains from two to three times a day. As a local application it is said to be more powerfully antiseptic but less dessicating than dermatol.

EUROPHEN.—*Iodo-di-iso-butyl-ortho-cresol* or *Di-iso-butyl-ortho-cresol-iodid* and is represented by the chemical formula $(C_4H_9.CH_3.C_6H_3O)_2HI$. It occurs as an amorphous powder, with a yellow color and an odor of saffron; it is soluble in alcohol, ether, chloroform and oils but insoluble in water. It is used chiefly locally as a dusting powder as a substitute for iodoform. It is also used hypodermically in the treatment of syphilitic disorders. Its best effects are obtained by a local use, and even then only by its application to secreting or otherwise moist surfaces. Kopp reports excellent results from a mixture of europhen and boracic acid. Christmann concludes from his experiments that the evolution of iodin is necessary before an exhibition of germicidal power—this is dependent upon the decomposition of the drug, as in the case of iodoform.

EXALGINE.—A substance, also termed *Methyl-acetanilid*, obtained by the action of acetyl chlorid upon monomethyl-anilid and possessing the chemical formula $C_6H_5N(CH_3)CH_3CO$. It occurs as a tasteless powder made up of crystalline, needle-like particles which are readily soluble in alcohol and sparingly soluble in water. It is said to possess antiseptic properties but these are not marked, at least not sufficiently marked to make the substance of any great value in this connection.

FERRIC CHLORID.—$FeCl_3$, frequently given as Fe_2Cl_6. A 5 per cent solution of the substance required five days to destroy anthrax spores, failing to do so in two days. No marked germicidal power.

FERROUS SULPHATE.—$FeSO_4$. Sternberg found that a 20 per cent solution failed to kill putrefactive organisms—that it was antiseptic, not germicidal.

FORMALIN.—H.COH. This substance is nothing more nor less than an aqueous solution of formic aldehyde of the strength of 40 per cent. It has its laurels yet to earn.

FORMIC ACID.—H.COOH. This irritating substance is formed either by the distillation of the bodies of ants, as was formerly done, or else by the oxidation of formic aldehyde, which is in turn produced by the oxidation of methyl alcohol. Kitasato determined experimentally that .35 per cent would destroy typhoid bacilli in five hours and that .22 per cent would produce a like result in the same time upon the spirilla of cholera.

[TO BE CONTINUED.]

The Use of Electro Therapeutics vs. Mechanico Therapeutics.

BY F. W. ABEKEN, M.D.

Read before the St. Louis Medical Society, March 10, 1894.

In discussing these vibro therapeutics, I shall try the experiment of speaking about something, I know little or nothing of. I think I have some precedents—of course not in this society—to justify the attempt. Besides, I shall try to make my points in argument as concise as possible, agreeably to the requirements and custom of this society.

All I know about these vibro-therapeutics is what I have gleaned from a prospectus of some institute, organized as a commercial enterprise, where therapeutics are applied, and from this paper under discussion, of which unfortunately, I could catch only about one tenth. This to substantiate my claim for lack of knowledge.

Motion—active or passive—results in increased destructive assimilation. Vibro-therapeutics, as a form of motion, accomplishes this. This increased destructive assimilation is a change in the existing condition of a muscle or nerve and may become a change for the better or worse. When a boy's Waterbury is out of order, he pokes and fumbles at some wheel, whether the sick one or any other, and sometimes the piece is started again on its career of usefullness, sometimes there is a catastrophe. Any change for the better affected in an existing condition of disease, is termed as resulting from the effects of an alterative, whenever we know no more about the trouble in the human being, than the boy does about the trouble in his watch.

Vibro therapeutics may be an excellent alterative. I believe it is, though I cannot assert it. But I do believe any change, any alterative effected by motion, can be brought about better by the vibrations of electric currents, vibrating from 20 to many million times per second, than by any shaking apparatus, as suggested by mechanico-therapeutists.

Chemical action is, of course in principle, also mechan-

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ical action. But when speaking here of the effects of interrupted currents, I believe it is not necessary to explain at length what is meant by a differentiation of their chemical and mechanical effects. Certain of these mechanical effects are very remarkable, and, to the best of my information, have been recognized only for the last 2 or 3 years. Their investigation opens a vista for the useful application of electricity hitherto unthought of, and entirely distinct from the usual application of electro-therapeutists.

If a current of certain volume is interrupted 20 times per one second and is then passed through a muscle, the muscle contracts tetanically. This spasm increases with the number of interruptions until 2500 per one second is reached, when it decreases until, at 10000 vibrations per one second, the same current entirely ceases to excite either objective or subjective symptoms. Apparatus has been recently devised and used, which interrupts a current many million times per one second. With such an apparatus, enormous quantities of electricity of tremendous tension have been passed safely through a human being—last year in our Exposition Hall through Mr. Tesla—which, under ordinary circumstances would suffice to fell—not an ox—but a herd of elephants.

The effect of such currents, through man or beast, is a great increase of carbon dioxide and urea, without—a remarkable fact!—a corresponding increase of temperature or other perceptible disturbance of well being. Here are facts which must be weighed.

My argument, now, is this; if passive vibro motion be of use, the vibro motion of interrupted currents is more convenient and reaches much farther, than that of mechanico-therapeutic apparatus. To this argument I beg leave to add a question for information about this apparatus for very frequent interruptions, and about the present status of knowledge of its effects, my knowledge consisting merely of occasional hints in scientific and medical journals.

Mr. Chairman.—I wonder whether I have succeeded in speaking interestingly on a subject, I know very little about, without having given offense to this society.

Red Light on Small-Pox.—It is announced that one of the small-pox pavilions at the Riverside Hospital on North Brother Island is to be fitted up with red glass windows, and with red glass globes for the lights used at night, in accordance with the alleged discovery that the skin of small-pox patients is extremely sensitive to the violet-colored rays of light, and that it is these which give rise to the pitting. The experiments which it is claimed demonstrated this fact were made by Drs Lindholm and Finsen, in the City Hospital, at Bergen, Norway. New York will therefore be the first city in this country to try the efficacy of the red light, which is the same at that used by photographers in developing sensitive plates.—*Med. Rec.*

EDITORIALS

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

All letters containing business communications or referring to the publication, subscription, or advertising department of this REVIEW, should be addressed to 914 Locust Street, St. Louis.

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A New Medical Journal.

The first number of the *Deutsch-Amerikanische Monatsschrift*, edited by Drs. Blech and Baer, of St. Louis, is before us. It claims to be the organ for German physicians and surgeons in America.

It is refreshing in these days of widespread journalopathy or journalites, as we would prefer to call it, to see a real novelty in the somewhat monotonous market of medical journalism arise. There are, in this specimen copy, none of your claptrap, hackneyed, grandiloquent phrases, so characteristic of the programme of newly founded journals. The object of this publication is a noble, a sublime one, (*hehres*); to-wit: "The fraternal unification of all physicians and surgeons of the German tongue in the United States." This is the distinctive feature of the new journal.

We do not know, whether there is a *raison d'etre* or a "raeson a etre" as the editors are pleased to term it, for a new medical paper on this ground. We always have imagined that the English language is good enough to convey medical thoughts, even where they emanate from German-speaking doctors practicing in our country. We have been under the impression all along, but are open to conviction, if proof to the contrary be furnished, that the German-speaking doctors

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in the United States do not set up the claim of a separate nationality, differing from that of other confreres. Twenty-nine out of a hundred of these "Germans" are either born in this country, or have received their medical education in one of our medical colleges. They understand and handle the English language tolerably well, so well, indeed, that they prefer to convey their medical thoughts, written or spoken, in English, and not in German, no matter whether they are partial to that language in their social conversations.

There alreads exists a *New Yorker Medizinische Monatsschrift*, by the way, a very good journal, which also claims to be the "organ for practicing physicians in America." We wonder, if the editors of the new *Monatsschrift* have had any knowledge of the older namesake. We presume not. From certain indications we conclude that they have not been in the country very long.

There has been a question as to the viability of and justification for the New York publication of this name. We think that at the time of its foundation objections were filed on the part of some to the publishing of a medical journal in a foreign tongue in these English speaking United States. Well, this is a free country, you know! And, besides, there is at least a shadow of a justification for the *New Yorker Monatsschrift*, New York is not an American city, only geographically it can lay claim to that title. It is more Irish and more German than it is American. The influx of German born and bred physicians is a steady one. Men of international fame have flocked in considerable numbers to the metropolis for a number of years. Their knowledge of the English language generally is not in keeping with their medical attainments. This is not in itself an unpardonable sin. Their choice to discuss medical matters among themselves in a language with which they are familiar and to put them into print in that language establishes certainly a raison d'etre. We therefore believe that the original *Monatsschrift* will continue to exist.

But what are the prospects of this newborn babe of medical journalism, or the *infans hoc* (!) as the editors style it in a spirit of grammatical innovation? We are pained to prophecy an early marasmus and a speedy, but painless *exitus lethalis* from inanition. We do not believe that the plan of a general German fraternization will work satisfactorily.

While it lasts, however, we bid the new comer welcome to the meager ranks of medical journalism of this great country, especially if in the future it improves its German, French and Latin which bristle with mistakes.

Its spirit of independence from "party, school or authority" is a specially laudable feature of this journal. The principal authorities quoted in it are two professors of the Barnes Medical College. There is also a fine picture of this College on the cover of the journal and an announcement of its spring course.

Legal Requirements for the Practice of Medicine in the United States.

The Illinois State Board of Health will include in its forthcoming Report on Medical Education, the text of all laws on this subject in force at the beginning of this year in the several States and Territories of the United States, and in the provinces of the Dominion of Canada. From this Report, through the courtesy of the Secretary of the Board, Dr. J. W. Scott, the following interesting data have been gathered for which we are indebted to the *Journal of the American Medical Association*.

Of the six New England States, Maine, Massachusets, New Hampshire and Rhode Island have no legal requirements for the practice of medicine. Connecticut has adopted a medical practice act which went into effect Oct. 1, 1893, and in Vermont the law requires the registry of a diploma indorsed by a Board of Medical Censors or of a certificate of satisfactory examination by one of these Boards.

Exclusive of the four States first named, the other States and Territories may be roughly grouped into the following three classes:

In Alabama, Arkansas, Florida, Maryland, Minnesota, Mississippi, New Jersey, New York (act of May 9, 1893), North Carolina, North Dakota, Pennsylvania (after March 1, 1894), South Dakota, Texas. Utah, Virginia and Washington, the diploma confers no right to practice and has no legal value, except, in some cases, to give its possessor standing before an examining board: The right to practice in each of these sixteen States is determined by individual examination before boards of examiners created by law,

In California, Colorado, Connecticut (since October, 1893), Delaware, Illinois, Iowa, Kentucky, Louisiana, Missouri, Montana, Nebraska, New Mexico, Oklahoma, Oregon, Tennessee, Vermont and West Virginia, the diploma is subject to the supervision of some designated body vested by law with authority to determine its validity as evidence of its possessor's qualifications for the practice of medicine. Failing the possession of such a recognized diploma, the right to practice may be acquired by passing a satisfactory examination.

In Arizona, Georgia, Idaho, Indiana, Kansas, Michigan, Nevada, Ohio, South Carolina (since the repeal of the Act of 1888), Wisconsin and Wyoming, the presentation of any kind of a diploma—provided only that it be from a "chartered" medical institution—is the sufficient warrant in law for county clerks, clerks of courts, registrars of deeds and similarly qualified judges of medical fitness to admit to practice.

Following is a resume of the legal requirements for practice in each State and Territory of the United States, in force Jan. 1, 1894:

Alabama.—A certificate of successful examination by the State (or a county) Board of Medical Examiners. Diplomas confer no right to practice.

Arizona.—Registry, with a county recorder, of an

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unrevoked, uncancelled "diploma regularly issued by a medical college properly and lawfully organized under the laws of the State wherein said college should be located."

Arkansas.—A certificate of successful examination by the State (or a county) Board of Medical Examiners. Diplomas confer no right to practice.

California.—A certificate issued on the diploma of a college in good standing or upon a successful examination by one of the State Boards of Medical Examiners—regular, homeopathic or eclectic.

Colorado.—Similar to California, except that there is but one State Board of Medical Examiners.

Connecticut.—A certificate of registration of the diploma of a college "recognized as reputable by one of the chartered medical societies of the State," regular, homeopathic, eclectic; or a certificate of satisfactory examination by a committee appointed for the purpose by the State Board of Health.

Delaware.—A certificate based upon the registration of a diploma from "a respectable medical college," or upon "a full and impartial examination by the State Board of Medical Examiners."

District of Columbia.—Nominally the indorsement of a diploma, or an examination, by a committee of the District Medical Society; practically no requirement.

Florida.—A certificate of satisfactory examination by the State (or a district) Board of Medical Examiners. Diplomas confer no right to practice.

Georgia.—The registration of a diploma from any "incorporated medical college, medical school or university." The clerks of the Superior Courts are the sole judges of the value of the diploma as evidence of fitness for medical practice.

Idaho.—The record of a diploma at a county seat.

Illinois.—A certificate issued by the State Board of Health upon the diploma of a legally chartered medical institution in good standing as determined by the Board, or upon a satisfactory examination by the Board.

Indiana.—The registration, in a county clerk's office, of a diploma "from some reputable medical college."

Indian Territory.—*a.* Cherokee Nation: An examination by the Board of Medical Examiners; *b.* Choctaw Nation: A certificate based upon a diploma or upon an examination by the Board of Medical Examiners; *c.* Creek Nation: Payment of $25 annually as a license fee.

Iowa.—Similar to Illinois.

Kansas.—The registry of a diploma from "some respectable school of medicine," or of a certificate of qualification from some State or county medical society.

Kentucky.—A certificate from the State Board of health issued upon the "diploma of a reputable and legally chartered medical college."

Louisiana.—The record of a diploma from "any medical institution of credit and respectability" after indorsement by the State Board of Health.

Maine.—No legal requirement. In 1887 an act to regulate the practice of medicine was passed by the Legislature but was vetoed by the Governor.

Maryland.—A certificate issued upon a satisfactory examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

Massachusetts.—No legal requirement.

Minnesota.—Similar to Maryland.

Mississippi.—Similar to Maryland—except that the examination is made and the certificate issued by the State Board of Health.

Missouri.—Similar to Illinois.

Montana.—Ten years of practice; a certificate upon the diploma of a college "in good standing," or upon an examination by the State Board of Medical Examiners.

Nebraska.—A certificate issued by the State Board of Health upon the diploma of "a legally chartered medical school or college in good standing," as defined in Section 8 of the Act of July, 1891.

Nevada.—The record of a diploma from "some regularly chartered medical school."

New Hampshire.—No legal requirement.

New Jersey.—A license issued upon a successful examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

New Mexico.—A certificate upon the diploma of a legally chartered medical institution in good standing, or an examination by the Territorial Board of Medical Examiners.

New York.—A license issued upon a successful examination by one of the State Boards of Medical Examiners—regular, homeopathic, eclectic. Diplomas confer no right to practice.

North Dakota.—Similar to North Carolina.

Ohio.—The diploma of a respectable school of medicine, or a certificate of qualification from a State or county medical society.

Oklahoma.—A license issued by the Superintendent of Public Health upon a medical diploma or after examination.

Oregon.—A certificate on the diploma of a college "in good standing," or after examination by the State Board of Medical Examiners.

Pennsylvania.—A license issued after examination before one of the State Boards of Medical Examiners: Act of May 18, 1893; takes effect March 1, 1894. Diplomas will thereafter confer no right to practice.

Rhode Island.—No legal requirement.

South Carolina.—A certificate of verification of the diploma of a reputable medical college. An act of Dec. 24, 1890, abolished the State Board of Medical Examiners created by the Act of 1888 and under which the diploma conferred no right to practice.

South Dakota.—A license issued by the State Board of Health after examination. Diplomas confer no right to practice.

Tennessee.—A license on the diploma of a college "in

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good standing," or after examination by the State Board of Medical Examiners.

Texas.—A license issued after examination by a District Board of Medical Examiners. Diplomas confer no right to practice..

Utah.—A license issued by the Territorial Board of Medical Examiners after examination. Diplomas confer no right to practice.

Vermont.—The registry of a diploma indorsed by one of the Boards of Medical Censors, or a certificate of examination by one of the Boards.

Virginia.—A license issued after examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

Washington.—Similar to Virginia.

West Virginia.—A license on the diploma of a reputable college, or after examination by the State Board of Health.

Wisconsin.—The indorsement of a medical diploma by the censors of either of the State or county medical societies.

Wyoming.—The record of a diploma with a registrar of deeds.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, March 10, 1894.

The Vice-President, HEINE MARKS, M.D., in the chair.

DR. LEMEN presented a patient, 61 years of age, a shoemaker by occupation, and suffering with an

ANEURISM OF THE TRANSVERSE PORTION OF THE AORTA.

Patient had always been healthy until two years ago, since which time he has suffered, more or less severly, with pain in his chest. The right radial pulse is much stronger than the left. The trouble probably had its origin from a sclerosis of the intima, resulting from the bent position assumed by the patient while working.

The aneurism could be distinctly seen bulging and pulsating through the left chest-wall immediately above the nipple, and was the size of a small cocoanut.

DR. T. F. PREWITT presented three pathological specimens. The first was a

RUPTURED KIDNEY

removed from a patient who had been kicked in the right lumbar region by a horse. When first seen, the patient was in a state of collapse, very weak and suffering from pro found shock. There were only very slight marks of violence to be found externally, but the urine contained blood. An incision was made over the region of the kidney, and large blood clots removed from the tissues under the fasciæ. A rent, three inches long, was found in the peritoneum high up, the kidney was torn almost in two, and the peritoneum was full of blood and urine. Another incision was made in the abdomen at the outer border of the rectus muscle, with the view of sewing up the peritoneum in this manner. The kidney was removed, but the patient died from shock a few hours after the operation. The interesting point in this case, was the extensive injury to the internal organ without any external marks of violence.

The second specimen was a

CANCER OF THE TONGUE

removed from a patient 55 years of age. The disease had manifested itself by a singular, circumscribed ulcer, looking very much like a hard chancre and began to form about one year ago. There was no involvement of the submaxillary glands before the operation, although they have become enlarged since, not as a result of inflammation, but from a diseased condition.

In removing the tongue, which was accomplished through the mouth, the doctor performed a preliminary laryngotomy, administering chloroform through the tracheal canula. The patient has not had the least difficulty since the operation, eating and talking without trouble

The third was bile obtained from a patient who had an

OCCLUSION OF THE COMMON DUCT,

evidently as a result of some inflammatory condition, there having been only one short and slight attack of colic. The patient was 45 years old, and had suffered months. She was very much jaundiced, the skin being of a chestnut brown and mottled by petechial spots. Since the operation the patient has very materially improved. The bile has changed from an inky black to a golden brown, and the jaundice, though still very marked, is disappearing. There is, however, no evidence that the bile is flowing through the common duct.

DR. MEISENBACH presented some specimens, obtained post-mortem from, what was called, a "freak." The patient had been 35 years old, and the condition was a congenital one. The specimens comprised a foot and ankle, the hand and wrist, an elbow, knee joint, the head of femur and ilium, and the head of the humerus. In all cases the anatomical contour had been lost. The foot was in a state of extreme talipes equino varus and the joints ankylosed. The knee and elbow joints were almost completely ankylosed and in a state of extreme flexion. The head of the femur was small, undeveloped, had lost its contour, and gave evidence of non-union to the shaft. The most remarkable, however, was the head of the femur and its articulation. The head itself was very small, the neck thin, and formed an obtuse angle with the shaft of the bone, as in the infantile condition.

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The trochanter major was as fully developed as in the normal bone. The acetabulum, ordinarily an expended cavity, was very much contracted, and a very much broadened, thickened, and lengthened ligamentum teres spang from the cotyloid notch and was inserted into the small head of the femur as a broad band.

Muscular tissue was entirely absent and represented only by fibrous structure, while the bones were very small and undeveloped, there being hardly any intermedullary substance. The specimens, as a whole, were a beautiful illustration of the condition known as inactivity atrophy, of Virchow.

But there is a surgical lesson to be gleaned from these specimens, namely: That joints should not be kept immobilized too long in the case of fractures. This is particularly true of Colle's fracture occuring in persons past middle age, and in fractures of the neck of the femur in persons of advanced age. Atrophy and ankylosis are liable to occur from prolonged disuse.

The discussion of Dr. E. H. McCullers' paper, "Mechanico-Therapeutics by Means of Apparatus" was resumed.

Dr. Johnston said, that he had used mechanical massage in cases of muscular atrophy, indigestion, hepatic disorders, and neuralgia, and had found it of very great benefit. He therefore could recommend it as a very efficient therapeutic agent.

Dr. Abeken read a paper (See page 246) in discussion of the subject.

Dr. McCullers replied, that he had used both electricity and mechanical massage, and had found the electric treatment ineffectual where massage had produced good results. The illustrations, offered in conjunction with his paper, were but poor representations of the apparatus described. The theory of their action could not be comprehended without seeing the machines in operation.

Dr. George Wiley Broome read a paper (which will be published early in April) on

Some Fresh Points in the Technique of Celiotomy, Extra-Peritoneal Abdominal Hysterectomy, and Ideal Myomectomy.

Dr. Williams had found, that the use of dry treatment in affections of the mucous membranes was more satisfactory than the wet method. This is particularly true in cases of the ear and nose.

Dr. Barck also agreed with Dr. Broome, that syringing out mucous cavities with large quantities of fluids is dangerous. Recently he had operated upon a patient, 27 years of age, for thrombosis of the sigmoid sinus. The otorrhea had lasted since early childhood, and when he first saw the patient, the middle ear and external auditory canal were filled with granulations. The patient did not call for some days, and he was called to see her at home and found brain symptoms present. The first operation consisted in the removal of the posterior wall of the external auditory canal, thereby making one cavity of it, the antrum, and the middle ear. The symptoms did not subside, however, and three days later the sigmoid sinus was laid open. The septic thrombus was removed and the cavity healed very readily, but in the lower portion there was a constant accumulation of pus. The cavity was first washed with antiseptic fluids and later treated by the dry method, but each was followed by a chill and a rise in temperature of 105°. The jugular vein was finally tied and the condition of the patient improved.

The speaker agreed, in the main, with Dr. Broome, but thought that the use of powder in the ear did more harm than good. The trouble with all powders, and even with the absorbent dressings at our disposal, was that they do not possess sufficient capillary attraction for our needs.

Dr. Prewitt asked Dr. Barck, if he did not consider it better to tie the jugular vein in all cases before opening the sigmoid sinus.

Dr. Barck answered, that it certainly should be done in all cases. That there were 32 cases, of opening of the sigmoid sinus for infectious thrombosis, on record. Four by Horsley of London, and 28 by Macewen of Glasgow. Horsley had two recoveries and two deaths, Macewen twenty recoveries and eight deaths. Horsley advocates the tying of the jugular vain in all cases before the opening of the sinus, whilst Macewen reserves it only for exceptional cases, especially where a hard thrombus in the jugular vein can be felt distinctly. The speaker after his experience, takes Horsley's view of the question.

Dr. Fairbrother thought that the beneficial effect of iodoform, resulted from the liberation of iodine which was held in composition, and he therefore frequently uses iodine in his operations.

Dr. Prewitt, referring to Mr. Tait's statement that antiseptics are without virtue, said, that as long as we are not able to obtain absolute cleanliness in operations —Mr. Tait's substitute--antiseptics must play an important role. He also thought that the use of antiseptic powders on carefully approximated skin wounds is superfluous. They will heal by first intention without them, the infection occurring in some cases being due to septic stitches.

Dr. Meisenbach, referring to the methods of administering chloroform, mentioned one in which a certain amount of air is pumped into the bottle containg chloroform, the patient inhaling the ad-mixture from a limited area. He referred also to Hahn's method in cases of operation on the tongue. By this method a large canula is surrounded by a sponge, which is inserted into the larynx and fills the cavity when expanded.

Dr. Broome gives no anesthetics at all, in operations upon the tongue, except a dose of morphine and whisky. In operating he makes a primary incision in the cheek and, drawing the tongue through the opening, he then completes the proposed operation upon the tongue while it is outside of the mouth, when there is no danger from hemorrhage. Besides, if he is conscious of what is going on, he is in a condition to pro-

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tect his own lungs, by means of his epiglottis, by blood escaping into them.

American Medical Association.

The following programme of the Section on Surgery and Anatomy, at the forthcoming meeting of the American Medical Association, to be held at San Francisco, Cal, June 5–8, 1894, is announced:

John B. Roberts, M.D., Philadelphia, Pa., Chairman; Lloyd W. McRae, M.D., Atlanta, Georgia, Secretary.

It is proposed to devote a portion of the time of this Section to the systematic consideration of a few selected subjects, upon which papers, each not occupying more than ten minutes will be read. It is hoped that speakers discussing these papers will confine their remarks to brief addresses of five minutes length. The topics and papers to be so presented are as follows:

1. Malignant Growths.—The Pathology of Malignant Growths, E. Laplace, Philadelphia, Penn.

A Critique of the Sporozoan Theory of Malignant Neoplasms from a Micro-technical Standpoint. A. P. Ohlmacher, Chicago, Ill.

Clinical Recognition of Malignancy in Tumors, C. A. Wheaton, St. Paul, Minn.; Henry W. Coe, Portland, Oregon.

The Necessity of Early Surgical Interference in Malignant Tumors, R. A. McLean, San Francisco, Cal.

The Value of Caustics in Malignant Growths, John Parmenter, Buffalo, New York.

The Radical Cure of Malignant Tumors by Operation. J. H. Wythe, Oakland, Cal.

The Value of Inoculations with Septic or Toxic Agents in the Treatment of Malignant Neoplasms, John A. Wyeth, New York, N. Y.

Tubercular Disease of Joints.—Early Symptoms and Diagnosis of Tubercular Joint Disease, Emmet Rixford, San Francisco, Cal.; A. B. Judson, New York, N. Y.

Conservative Treatment of Tubercular Joints, R. H. Sayre, New York, N. Y.; Harry M. Sherman, San Francisco, Cal.; James E. Thompson, Galveston, Texas.

Operative Treatment of Tubercular Joints, Robert W. Lovett, Boston, Mass.

Treatment of Tubercular Joints by Injections of Iodoform, N. Senn, Chicago, Ill.

Treatment of Tubercular Joints by Injections of Corrosive Sublimate, R. H. Plummer, San Francisco, Cal.

3. Hernia.—The Causation and Prevention of Hernia, James T. Jelks, Hot Springs, Arkansas; C. M. Richter, San Francisco, Cal.

The Management of Reducible Hernia, Emory Lanphear, Kansas City, Mo.; C. M. Fenn, San Diego, Cal.

The Treatment of Irreducible Hernia, James B. Eagleson, Seattle, Washington.

The Treatment of Strangulated Hernia, Joseph Ransohoff, Cincinnati, Ohio.

The Radical Cure of Hernia, W. E. S. Davis, Birmingham, Ala.; H. O. Marcy, Boston, Mass.

4. Hemorrhoids, Fistula, and Fissure.—The Pathology and Symptomology of Hemorrhoids, Anal Fistula, and Anal Fissure, J. M. Matthews, Louisville, Ky.; David Powell, Marysville, Cal.

Treatment of Hemorrhoids, H. M. Bishop, Los Angeles, Cal; Charles B. Kelsey, New York, N. Y.

Treatment of Anal Fistula, J. McF. Gaston, Atlanta, Ga.; G. B. Somers, San Francisco, Cal.

Treatment of Anal Fissure, Thomas W. Huntington, Sacramento, Cal.; Lewis H. Adler, Jr., Philadelphia, Penn.

5. Fractures.—Treatment of Fractures of the Lower End of the Humerus, Oscar H. Allis, Philadelphia, Pa.

Treatment of Fractures of the Lower End of the Radius, P. T. Conner, Cincinnati, Ohio; C. L. Bower, Philadelphia, Pa.

Treatment of Fractures of the Neck of the Femur, Bedford Brown, Alexandria, Virginia.

Treatment of Gunshot Fractures, George A. Goodfellow, Tucson, Arizona.

Treatment of Fractures of the Shaft of the Femur, Llewellyn Eliot, Washington, D. C.

Treatment of Open or Compound Fractures, H. H. Mudd, St. Louis, Mo.; John B. Hamilton, Chicago, Ill.

6. Obstruction to Urination in the Male — Effects of Obstruction in Urination Upon the Bladder and Kidneys, J. William White, Philadelphia, Pa.

Diagnosis and Treatment of Enlargement of the Prostate Gland, Hunter McGuire, Richmond, Va.; Wm. T. Belfield, Chicago, Ills.

Symptoms and Treatment of Stone in the Bladder, Wm. T. Briggs, Nashville, Tenn.

Symptoms and Treatment of Tumors of the Bladder, John B. Deaver, Philadelphia, Pa; C. F. Buckley, San Francisco, Cal.

Treatment of Stricture of the Urethra, J. Rosenstirn, San Francisco, Cal.

Members who have specimens or patients to exhibit bearing on these topics or who wish to make remarks in the discussion of them are cordially invited to be present during the meetings of the Section. The titles of other papers to be presented to the Section will be published when the programme of the Meeting of the Association is issued by the Committee of Arrangements.

John B. Roberts, 1627 Walnut Street, Philadelphia, Pa. Chairman Section on Surgery and Anatomy.

General Arrangements.

The Committee of Arrangements has secured Odd fellows' Hall Building cor. Market & 7th Sts. for the meeting June 5, 1894.

Assembly Hall, for the general meeting, has a capacity of 1500; the twelve smaller halls for Section work, range in capacity from 500 downward, with committee rooms adjacent.

The engagement carries three of these rooms on Monday for accommodation of associate organizations, as that of the editors, colleges, etc.

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The banquet room on the ground floor, 65 x 95 feet, will be devoted to exhibition purposes for which it is admirably adapted, and has been secured for the entire week that exhibitors may have Monday in which to place their goods, and Saturday in which to remove them. Nearly half of the space is already taken, and others who desire to make a display of their goods under the most auspicious circumstances ever presented on the Pacific coast should lose no time in applying to the chairman for space.

Headquarters for the Association have been located at the Palace Hotel cor. Market & Montgomery Sts. only 4 blocks from the place of meeting. Here we have "Marble Hall," 30 x 40 feet, as a registration room where work will begin on Monday, and "Parlor A," for committee work.

The following hotels, centrally situated and convenient to the place of meeting, have quoted special rates, for members and their families, which will apply during the entire stay of the guests, who should, upon registering, signify that they are in attendance upon the meeting of the Association.

The rates quoted are for single persons, the variation depending upon the size, situation, and appurtenances of the rooms, as single, en suite, with private bath, etc.; special arrangementss will be made for families, or parties, on timely notice.

Some of the hotels entertain upon the American plan only, some upon the European plan only and some upon either plan to suit guests.

Palace Hotel (headquarters), American plan (rooms and board), $3.50 to $5.50 per day; European plan (rooms only), $1.50 to $3.50 per day.

Baldwin Hotel, American plan, $3.50 to $5; European $1 to $3.

California Hotel, American plan $3 50 and up; European $1.50 and up.

Lick House, American plan $2 50 and up; European $1 and up.

Occidental Hotel American plan $2.50 and up.

Hotel Pleasanton, American plan $2.50 to $5.

Russ House, American plan $2 to $3.50; European 50 cts. to $2.

Grand Hotel, connected with the Palace by a glass enclosed bridge, across New Montgomery St., European plan $1 to $2.

In addition there are many other hotels, boarding houses, lodging houses, and restaurants contiguous to the place of meeting where one can be made happy and comfortable at less cost.

Post Office Section K. is located in the Palace Hotel on the office floor adjacent to the Registration room where members can receive all mail matter by having it so addressed. R. H. PLUMMER, Chairman.

While San Francisco is a comparatively new city it is not lacking in places of interest to the visitor. About a half mile to the north of the city limits meeting in a little valley and surrounded by evergreen trees is the Presidio, the U. S. Army station—A short distance beyond is old Fort Point upon the waters very edge—The waves of the bay dashing upon its cement abutments are broken into spray and lost upon its walls.

McDowell avenue leads from near the fort around the top of the cliffs overlooking the Golden Gate and the broad expanse of the Pacific ocean.

Vessels of all nations and descriptions can be seen in the offing or quietly gliding through the waters of the gate.

The Cliff House, a famous resort, is situated upon a promontory directly overlooking the ocean. In the distance, on a clear day, the Farallone Islands, twenty-five miles away, are seen rising abruptly from the water, while less than one hundred yards from where one stands, the "Seal Rocks" jut up from the waves and the loud barking of the seals and sea lions upon them tell why they are so named.

Sutro Heights are just above the Cliff House. Here nature and art have so blended their works that the visitor is truly astonished and delighted with what he sees. The committee of arrangements are planning an entertainment at this place for the wives and daughters of visiting members to the association. All San Francisco is justly proud of its Golden Gate Park. What was once dreary sand dunes, has been transformed into a very garden. Flowers bloom throughout the year, and the grasses are always green.

Broad Avenues wind in and out past the conservatory, the deer paddock, around the base of Strawberry Hill and onto the ocean beach.

The California Mid-winter fair is being held in the Park at the base of Strawberry Hill, and occupies a space many acres in extent.

This fair has an individuality peculiarly its own, and offers much of interest to every visitor.

ABSTRACTS

MEDICINE.

Treatment of Epilepsy.—Prof. Lemoine (*Revue Generale de Clin. et Therap.*; Cincinnati *Lancet Clinic*) recommends, in the management of epilepsy, an extensive surveillance, of which the most important points are as follows: The mental diet of the patient should be carefully watched, that he be kept free from all physical and mental exhaustion, psychic excitement, sudden alterations of the temperature, and disturbances of digestion. Alcoholic drinks and coffee are to be forbidden, and constipation to be treated. In the treatment of the attack itself, he recommends a rectal injection containing two grammes (30 grains) of the bromide of potash and chloral, to be administered in

the interval between attacks. If it fail to act after four hours, then give a second one, and even a third, after eight hours. During the attack the patient should be laid either on the floor or a bed and the garments loosened around his throat. In case the seizures rapidly re-occur (he has seen 220 within twenty-four hours), the patient should be placed in a dimly lit room, and, after cessation of the attacks, it is best to have the patient rest in bed for one day, with substantial but not bulky diet. In traumatic epilepsy he recommends operative interference, while, if it depend upon syphilis, the iodide of potash and mercury are the best means of treatment. For three weeks inunctions of six grammes (1½ drachms) of mercurial ointment are rubbed in daily, and then the iodide in rapidly increasing doses, from two to eight or ten grammes per diem. After cessation of the attacks the inunctions and the potash salt are continued from one to three months longer and the latter for a year, after each meal. By the use of a great deal of milk the tolerance for these remedies is increased. In menstrual epilepsy he administers every three days ten grains of antipyrine and four grains of the bicarbonate of soda,and as soon as the arterial tension is affected he adds a grain of the powdered leaves of digitalis. If there are, simultaneously, pains in the hypogastric region, he has an enema containing ten drops of the tincture of opium given. In the employment of the bromides the addition of hyoscyamine is of great service. He advises the following combination:

℞ Bromide of potash, - - gms. 30.
Bromide of sodium,
Bromide of ammonium, - aa gms. 15.
Hyoscyamine, - - - mgms. 15.
Water, - - - - - - qt. 1.

If signs of bromism appear he substitutes the bromide of gold for the other bromides, dissolving three grains in sixteen ounces of water. Of this mixture one or two teaspoonfuls per diem may be given. The bromides he always prescribes in watery solutions, and never in syrup. The doses should be large. Borax may be given with advantage in a daily dose of two or three grammes (30 to 45 grains).

Electro-Therapy.—Three main forms of electricity are employed as therapeutic agents—the static, voltaic and faradic currents.

Static or fractional electricity expends itself mostly on the surface of the body, and does not penetrate, so it has little direct effect on the deeper structures, yet it acts as a general excitant and stimulant, and is useful in chronic gout, rheumatism, dyspepsia and insomnia, in neuralgia, writer's cramp, neurasthenia, functional aphonia, chorea and other nervous affections, and it relieves and often cures herpes and chronic eczema

Voltaic or galvanic electricity is due to chemical action from a battery. It has more effect upon muscles and blood vessels, which are good conductors, than upon other tissues; the brain, the nerves and bones are indifferent conductors, and the skin is the worst of all. Therefore, to produce a tangible effect on subcutaneous tissues, the skin has to be made a better conductor, either by warming and moistening with salted water, or the current must be conveyed through it to the deeper parts by mechanical means, such as needles. By these methods a sufficiently strong current will have a catalytic or resolvent effect, and disintegrate or destroy tissues. A weaker current has an electrotonic or resilient effect, stimulating the circulation by improving the elasticity of the blood vessels, and a cataphoric or osmotic effect, favoring the filtration of fluids to and fro through the membranes. Thus bodily nutrition receives direct benefit.

Voltaic electricity is more or less serviceable in muscular rheumatism, lumbago, sciatica, neuralgia, functional derangement of organs and peripheral, meningeal and acute ascending paralysis. It is also used to resolve strictures, naevi, aneurisms, enlarged glands, abnormal growths and for all the purposes of electrolysis. It frequently arrests the bleeding of uterine fibroids and reduces their size.

Faradic or induced electricity provides an interrupted current that overcomes resistance and acts energetically on the deep muscles, nerves aad organs in a series of shocks in alternate directions. This method is applicable to nervous deafness, hysteria, impotence, spinal irritation, torticollis, constipation, rheumatism and menstrual disorders; to pruritic, syphilitic and other skin diseases, and to laryngeal, cerebral and vesical paralysis.

Faradism assists in the detection of feigned diseases; it also furnishes a test of vitality, as in trance and lethargy the muscles respond to the current, whereas they remain insensitive in actual death. And it is useful in poisoning by anesthetics, opium, morphia and prussic acid.

The functions of the brain and the will power may be set in action by faradism, whether applied directly to the sensorium or through a sensory nerve; thus sensations of seeing, hearing, etc., may be experienced.

Plumbic, facial and ophthalmic paralysis, locomotor ataxia and some chronic gastric affections often call for the co-operation of voltaic and faradic electricity.—L. Lewis, M.D., in *Times and Register.*

Diagnostic Use of Tuberculin.—Denison (*N. Y. Med. Journ.; Philad. Polyclinic*) belives that the unpopularity of tuberculin injections has arisen chiefly from the lack of due discrimination as to which are suitable cases for this particular treatment. The indiscriminate dosage, regardless of the favorable conditions and environment necessary to success; the looseness and inadequacy of technique in administration and the want of method in recording results; the lack of a thorough appreciation of climatic conditions and the defective lung ventilation, especially in bed-fast cases and acute phthisis.

He believes that in doubtful cases, tuberculin has the power to reveal the true nature and extent of the lesions with precision and gratifying certainty. In addition

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to the general febrile reaction which it provokes in the presence of tubercular disease a local reaction is caused which, in the case of the lung, consists mainly in a harsh, puerile, or an exaggerated broncho-vesicular breath sound, as heard with the stethoscope over the affected area. This is an exaggeration of what was heard before the tuberculin reaction, or it is heard in localities in which the breath sound was previously inaudible or very different. It is not an evanescent effect, but usually continuous, though in a lessening degree during the whole course treatment. He reports some striking cases in support of this view.

SURGERY.

A Case of Rupture of the Lung, Unassociated with Fracture of the Ribs.—With Early Subsequent Recovery.—The mechanism of this rare and fatal form of injury has been very aptly described by M. Gosselin. It is due to a sudden pressure exerted on the thoracic wall at the moment of full inspiration, there being a spasm of the glottis or obstruction of the larynx; in consequence of which the lung bursts. An extravasation of air occurs, resulting in the development of emphysema, pneumothorax, etc. Subsequently pleurisy, pneumonia, or even pus in the pleural cavity often results. Hemoptysis is a possible, but not a marked symptom. The mechanism is identical with that of the bursting of an inflated paper bag when struck by the hand.

M. Gosselin reports two cases terminating in recovery. Dr. John Ashhurst, Jr., reports having seen three cases, all of which terminated fatally before the fifth day; he has collected the histories of thirty-nine cases, of which twelve recovered. Dr. Otis has collected reports of twenty-five cases of this form of injury from military practice exclusively. These were generally caused by a blow on the chest, by a piece of shell, or other like missile. Among the twenty five cases there were eleven recoveries. As Dr. Ashhurst very justly remarks, this injury appears more fatal in civil than in military life.

That so severe a form of injury should show such a rapid and continuous recovery as in the case here cited is without a doubt extraordinary, and would seem to make it worthy of report.

Lewis W., ten years old, white, borne in Maryland, and living now in the District of Columbia; was brought in by the Emergency Hospital ambulance on the afternoon of November 10, with a history of having been run over by a hose-cart of the District Fire Department. The boy was in a state of extreme shock, having a weak, almost imperceptible pulse; his respirations were shallow and rapid, and his temperature subnormal. There were no signs of external injury about his thoracic cavity, and no fracture of the ribs could be detected, although carefully searched for; there was marked emphysema; the neck and side of the face were enormously swollen with the extravasated air, the tissues of the left arm were greatly infiltrated with air, which enabled us to elicit the familiar crepitus of such infiltration when an attempt at the determination of the radial pulse was made. Consciousness was never lost. There were several injuries to the face and scalp; and there was hemorrhage from the nose and mouth, which was attributed to the fact that the patient had fallen on his face, striking both nose and lip. This was confirmed subsequently by the absence of any evidences of hemoptysis during the whole period of convalescence. The saliva was not even blood streaked; therefore it can be said with verity that there was no hemoptysis.

The first indication in this, and in all similar chest-injuries, is to limit the amount of thoracic expansion. To effect this, the chest was securely strapped with overlapping bands of adhesive plaster, extending nearly around its whole circumference, and a muslin binder was applied. Hypodermic injections of strychnin and whiskey were resorted to, and hot-water bottles applied, the patient being wrapped in blankets. It was soon found that the respirations were easier, and the pain less marked when the patient was propped up in bed by several pillows, than in the dorsal position. To further control respiration, morphin sulphate in doses of one-sixteenth grain was given at sufficient intervals to keep the rate below 20.

Shortly after admission the patient reacted to the stimulating treatment, his pulse became stronger, and all evidences of threatened collapse disappeared. He rested well the first night and complained of no pain, then or subsequently. The improvement was continuous. The temperature remained normal until the evening of the fifth day, when it rose to 102.2°, and again on the evening of the sixth day to 102.3°. This rise was apparently without significance, as the patient at no time seemed disturbed by it. On the eighth day the temperature again reached the normal and has since remained there.

The advisability of thoracic puncture and superficial scarification of the infiltrated tissue to relieve the emphysema was considered; but realizing that such emphysema was not in itself dangerous and that the patient's condition constantly improved under treatment, these procedures were not employed. The wisdom of this decision was demonstrrted by the continued absorption of the air and diminution of the emphysema until the ninth day, when it was entirely absent from the tissues. A slight pneumothorax, however, remained. On the ninth day the chest was again carefully examined for evidence of a fracture, but the result of this second examination was again negative; leaving no doubt but that the case was one of rupture without fracture. There developed a slight, dry cough on the fifth day, which, however, soon subsided without any further treatment. The diet was exclusively of milk for a week, when light diet was substituted. The bowels were kept open daily by salines and enemata.

The boy is apparently well now, suffers no inconven-

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ience, and has left the hospital, safe from danger and apparently free from any pulmonary embarrassment. He uses well-developed diaphragmatic breathing which is fully sufficient.—W. L. Pyle, M.D., in *Medical News.*

The Surgical Treatment of Pulmonary Cavities.—From a study of the present aspect of the surgery of the lungs, Dandridge (*Annals of Surgery; Med. Rec.*) concludes that a certain number of pulmonary cavities can be successfully dealt with by incision and drainage. Tuberculous cavities in the lower portion of the lungs, if single and superficial, and if the general condition of the patient permits, should always be opened. Cavities at the apex should only be opened when there is free and persistent fetid expectoration that has resisted treatment, and the remainder of the lung is not involved. Abscess, gangrene, and hydatid cyst should be opened and drained whenever they can be located. Closure of the pleura should be insured before the evacuation of a cavity is attempted. In cases of pyo-pneumothorax the fistulous track should be explored, and any cavity freely laid open by means of the cautery. Cavities that have been opened are best treated by packing with gauze, preferably impregnated with iodoform. The further careful trial of such agents as iodoform, chlorin-gas, and zinc chlorid is desirable to determine whether or not the tuberculous infiltration may be modified by them. It is also desirable, for the further extension of surgical interference in pulmonary cavities, that the means of locating such cavities and of determining their size and the exact character of the tissue that overlies them should be perfected by further study, and for the accomplishment of this the surgeon must look to the physician.

Enteric Fever; Perforation; Peritonitis; Recovery.—Newton (Chicago *Med. Rec.; Med. News*) has reported the case of a lad, 17 years old, who came under observation on the third day after having taken to his bed, with diarrhea, tympanites,and pain in the right iliac fossa. The temperature was elevated and rose spots were present upon the abdomen. Restriction of the diet to milk and beef-tea, and the administration of a mineral acid and pepsin, and bismuth, salol, opium, were followed by amelioration in the symptoms. On the seventh day, however, the temperature again rose, the pulse became accelerated, small and thready, the face pinched, the skin cold and clammy, the tongue dry, and the abdomen tympanitic and extremely sensitive. It was learned that during the previous night, while a movement of the bowels was taking place, sharp, acute pain was felt in the side. Perforation of the bowel was diagnosticated, and celiotomy advised but not acquiesced in. Morphin, strychnin, and whisky were repeatedly administered, and by the following day the patient had rallied somewhat. He remained in a precarious condition for several days, when he gradually began to gain ground. For the succeeding three weeks the temperature pursued an irregular course and the diarrhea was particularly obstinate. After the lapse of another week indications of the presence of an abscess between the anus and the scrotum appeared, and three ounces of fetid pus was evacuated. Through the opening made a probe could be introduced into the abdominal cavity for a distance of ten inches. The opening was kept patulous by means of gauze, which was removed after the lapse of twelve days, and the external wound was permitted to heal. From a few days after the occurrence of the supposed perforation complaint was made of a particularly sore spot, about three inches in circumference, below and a little to the left of the umbilicus, and over which percussion yielded a dull note. It is believed that the spot indicated the situation of the local peritonitis that existed, and which remained local from the formation of intestinal adhesions as a result of the exudation of plastic lymph. As peculiar features of the cases are pointed out the early date of the occurrence of perforation, the situation in which the abscess pointed, the failure of the temperature to decline, and the absence of vomiting.

Neurasthenia and Tenotomies.—Dr. L. Bremer thus expresses his mind on the subject in the *Medical Standard.* There are no words strong enough to condemn the tinkering and fraudulent operations now so frequently practiced by either unsophisticated or knavish eye-doctors on a large class of neurasthenics, and neurotics in general by clipping the muscles of eye. The insufficiency of the ocular muscles is one of the well known and generally recognized symptoms of Beard's disease, and it was not necessary to invent a number of high sounding Greek names, such as exophoria and esophoria, etc., much less was it indicated to perform such operations as partial clipping of the ocular muscles.

If it should be objected that in a number of cases great benefit has been derived from such treatment, my answer is, that by treating the sexual organs, in women and men who presented the same kind of eye and general nervous symptoms, alleged benefit has been derived; and that the latest fad and fraud, orificial surgery, with headquarters in Chicago,claims the same wonderful result from such operations about the rectum. In fact, there is no specialty all the way from original ones down to "osteopathy" faith cure, which has not celebrated its triumphs on the wide field of neurasthenia.

The Treatment of Empyema in Childhood.—At a recent meeting of the Medical Society of Hamburg, Schutz (*Therapeutische Monatshefte; Medical News*) related that of eighteen cases of empyema in children treated by resection of one or more ribs, recovery ensued in all but two, and these were in children under one year of age. The prognosis of operation at this period of life is not favorable, but siphonage is not applicable. The drainage-tube, of considerable size, was permitted to remain, on an average, twenty-four days; the wound had healed in the course of an average

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period of forty-two days. Operation was undertaken as soon as the diagnosis was made, as the mortality of expectant treatment has been eighty per cent. Left-sided empyemata are particularly dangerous on account of the liability to the development of pericarditis. The resection was made as near as possible to the vertebral column. After the section of rib has been removed the pleural cavity was irrigated with a warm solution of boric acid, intended for the removal of the purulent contents rather than for disinfection. More active disinfectants, such as carbolic acid, are to be avoided on account of the risk of intoxication. Siphonage is not practically applicable in the case of young children on account of the liability of the tube to slip out of place. The operation was invariably well borne.

OBSTETRICS AND GYNECOLOGY.

The Diagnosis of Pelvic Inflammatory Diseases.—At the Southern Surgical and Gynecological Association, Dr. Howard A. Kelly read a paper on this subject, in which he called attention to certain common sources of error in making diagnosis of pelvic inflammation. An erroneous conclusion is often reached in these cases both by the general practitioner and the specialist, by relying for the diagnosis upon such symptoms as dysmenorrhea, more or less persistent pain in the pelvis, attacks of pain confining the patient to bed, diagnosed as "peritonitis," difficult locomotion, cachexia (due to morphia habit), tenderness on pressure over the right ovarian region, and extreme tenderness at the vault in a vaginal examination.

Such a group of symptoms frequently characterizes a false or pseudo-pelveo-peritonitis, in which there is actually no demonstrable lesion of any pelvic organ.

In order to make a diagnosis of true pelvic inflammatory disease the inflamed structures must be examined directly by touch.

The various subjective symptoms just detailed must be regarded as of secondary importance in reaching a diagnosis.

Even the patient's observation that she has passed a quantity of pus cannot be relied upon unless the pus is seen by the physician, as patients often mistake mucopurulent discharges from the uterus for the emptying of an abscess.

Fever, and especially recurrent attacks of fever, are valuable aids in making the diagnosis, but fever is generally absent, even in abscesses where the pus is encapsulated.

The direct examination, the sole test, is made by the vagina, or by the vagina and lower abdominal wall, and the diagnosis of pelvic inflammatory disease is made when a definite, hard, resisting mass is felt on one or both sides of the cervix. Through an empty rectum these masses are still more distinctly outlined. When the disease is not quite so evident, a bimanual examination through the rectum and abdomen should be made, carrying the index finger of the lower hand above the rectal pouch behind the uterus and laterally out on to the broad ligaments. The most minutely accurate examination of the pelvic organs which can possibly be made is called for when the ovaries and tubes are enclosed in delicate bands of adhesions, which allow considerable mobility to structures not enlarged.

This is accomplished by the trimanual method by vagina, rectum, and abdomen simultaneously under anesthesia.

Dr. Kelly exhibited his corrugated tenaculum to facilitate this examination. The point of the tenaculum is caught in the anterior lip of the cervix, which is drawn down to the hymen, and the tenaculum is held between the third and fourth fingers and the ball of the thumb, while the index finger is introduced into the rectum, and aided by the hand making pressure above, giving a plane of resistance, he is enabled to examine minutely the posterior surface of the uterus and all surfaces of the ovaries and tubes, detecting the slightest adhesions binding these organs down.

The examination under anesthesia is a matter of the utmost importance and not sufficiently appreciated. With anesthesia the most accurate examinations are possible. It is, therefore a *sine qua non* to the diagnostician.

RESUME.—In conclusion, Dr. Kelly recapitulated the important points he wished to establish, as follows:

1. His remarks are addressed for the most part to the general practitioner.

2. The history of the patient and sensitiveness over the ovarian regions, whether by deep abdominal or vaginal palpation, can but rarely *per se* establish a diagnosis of pelvic inflammatory disease.

3. An attempt to make a diagnosis without directly palpating the disease is at best but more or less clever guess-work.

4. The diagnosis can be made with certainty when resisting masses are felt choking the posterior half of the pelvis at the sides of and behind the uterus.

5. It is possible in this way to mistake a retroflexed fundus, an extra uterine pregnancy, a myoma, or a carcinoma for inflammatory disease. The error, however, will be in the right direction and not to the injury of the patient when she comes into the hands of the specialist

6. For a more delicate appreciation of the exact condition of the pelvic organs, and in most cases in order to make the diagnosis at all, a bimanual examination by rectum and abdomen under anesthesia in indispensable.

7. The trimanual examination, acting at the same time by rectum, vagina and abdomen, is the most delicate method of all, serving to detect the slightest irregularities in uterus and ovaries, as well as the most delicate adhesions.

8. Finally, constant practice, utilizing every available

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chance, will alone enable a man in general practice to appreciate these points so simple to the trained touch.

NOTES AND ITEMS

The Prohibition on Chemical Industry in America.—Over a quarter of a century has rolled by since the smoke of battle cleared away and the din of arms ceased to resound throughout America. The arts of peace have been cultivated for a generation, and one by one the oppressive measures, made necessary by a state of war, have been replaced or have lapsed by limitation. Only recently the press heralded the repeal of the Federal Election Laws as "the wiping out from our statute books of the last of the war measures," and all true Americans, victors and vanquished, Republicans and Democrats, all—save a few blood-thirsty non-combatants—rejoiced together over the fact.

But is it a fact? Every pharmacist in the land, from the great manufacturer down to the modest country apothecary, who makes a few tinctures and fluid extracts, knows that it is not. He knows that the art and science of pharmacy, the art and science of medicine, and their clients, the sick and suffering of the country still groan and labor under the war measure which, however necessary it may once have been in its inception has for years past been more onerous, unjust and shameful than any for whose repeal at least one great party has been clamoring—the tax on alcohol for manufacturing and medicinal purposes. It still stands on the statute books, a war-burthen, after thirty years of peace; a tax on the sick and suffering, a paralyzer of industries, as foolish and short-sighted as it is unjust and iniquitous.

And now, when the proposed revision of the tariff had given the pharmaceutical profession reason to hope for its repeal, or at least mitigation, comes the notice that it is proposed to increase the tax and duties on alcohol.

This is a blunder—a worse than blunder. It is an outrage on a long suffering class, as well as a blunder from an economical point of view, and one so plain that it would seem that any person of common sense would see its folly. Let Legislatures and Congress put all the tax they please upon liquor intented to be used as a beverage; let them throw all the difficulties they please around the distillation of and trade in it, and few decent men would care to raise their vocies in protest; but when it becomes a question of retaining prohibitory tariffs or taxes on alcohol for use in medicine and in the arts and industries, every sane individual should unite in protest.

The tax on alcohol for these purposes, and the inanities of our laws regulating the registration of trade marks, by which foreign patentees have every advantage over Americans, have paralyzed chemistry and chemical industries in this country, and have forced us to import from Germany and France millions of dollars worth of chemicals, drugs and medicines that would otherwise have been manufactured in the United States; they have carried hundreds, possibly thousands, of millions of dollars abroad during the past thirty years that should and would have stayed in this country, but for these fool statutes. Further than this, with our vast surplus of cereals, enabling us, were it not for the tariff and taxes, to produce alcohol cheaper than any other country on earth, the United States might have been the exporter of untold millions in chemicals to the balance of the world.

Just as long as we allow Schering, and Merck, and the host of other *Chemische-fabriken auf Actien*, *Farbenwerke*, etc., to patent their goods and register their trade names in this country, without reciprocity, and to appoint their "sole agent" and representatives in this country, through whom all orders for goods must pass (thus creating a monopoly on a monopoly); just as long as we do this and forbid Americans to manufacture chemicals, by placing the most important article in their manufacture at so enormous a price that its use and employment is ruinous,—just so long will we be importers instead of manufacturers and exporters, to the extent of hundreds and thousands of millions of dollars.—*National Druggist*, March 1894.

Essentials in a Healthful Home.—The site for a house should receive careful attention of the tenant, purchaser, or of one proposing to build. A good site may mean life and happiness, and a bad one disease, suffering, and death.

1. It should be dry; avoid, as you would death, a damp location. In a town or city carefully ascertain whether or not it is on "made ground." Avoid it. Avoid ground underlaid with clay, for it will always be damp.

2. Elevated on a hillside or gentle knoll, never in a hollow. The hillside is warmer and drier then the hollow.

3. Not close to a swamp, slow river, milldam, or land which is overflowed a portion of the year, nor in such a place that the prevailing winds will bring to the house pestilence from a milldam, etc.

4. In as good a neighborhood as possible, away from factories, saloons, etc., and near schools and churches.

5. In a village or town build on as large a lot as possible, thus securing air and sunlight. Build back from the street, thus avoiding the dust of the dry season and the curious gaze of every passer. Secure a yard in which trees and plants will furnish both exercise and health.

6. In the country build back from the highway, giving an abundance of room for trees and shrubbery about the house. Do not select a place where your family will be isolated from all social intercourse, so necessary to the health of mind and body.

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For the aspect, let the house be so placed that it will receive the most sunlight and fresh air, especially from the summer winds. Avoid, even if offered rent free, a damp, dark house, with no chance for the free air of heaven to sweep through it. If the house is only one room deep, it does well to face it to the south or south-west; but if it is two rooms deep, those on the north side never receive any sunlight, and are apt to be damp. For a double house it is the best to face to the east Then the morning sun will warm up the front and the afternoon sun the rear of the house, and thus all the rooms will be bathed in light and warmth. The living-rooms should always be warmed by the morning sun. This hint is worth a great deal as a health matter. For when the sun cannot enter, the doctor must enter. If the cold winds from the north and west are severe in the winter, they may be broken by a cluster of evergreen trees planted on those sides. In country places a good aspect should be secured without reference to facing the house square with the street.—*Pacific Health Journal.*

Speech for Deaf Children.—In an article with this title published in the January number of *The Popular Science Monthly*, Miss Lillie Eginton Warren, of New York, a teacher of the deaf, says: "Less than thirty years ago, no attempts were made to give speech to the deaf children of this country. Now correct, fluent utterance, with voice more or less agreeable, and the ability to understand others by watching the facial expressions, may be acquired by the boy or girl suddenly deprived of hearing or born deaf. The look of the very young deaf child is usually an interested one, accompanied by fewer unnecessary movements of the eye and less play of the facial muscles. From increased observant faculty comes a marked development of the imitative functions. The child's hands spring to his help. He goes through motions that he has noticed those about him use; in their case, however, speech and lack of observation have kept them from consciousness of those movements. They begin to see his, they are unaware of theirs; to them, the child has invented his own signs. Touch, taste, and smell come quickly to his aid. The lack of facial expression gives place to grimaces, and an unconscious play of the vocal organs forms a series of more or less unpleasant grunts and screams. The child must be taught to obey promptly, and his punishment be of a kind to win his respect. Reasoning from limited knowledge, gathered by his observation alone, he misunderstands many efforts to do well by him. Give him the speech he knows not, and the language that is to him a sealed book.

"It is possible to develop an agreeable voice if proper action of the edges of the glottis is secured. The voice formed in the larynx is moulded into the numerous vowels by the various shapes assumed by tongue, lips and soft palate, and into consonants by decided actions of the same organs. Vowels are the life of speech; in them lies expressive voice. Vowels and consonants combined forming words, can be learned as rapidly as they can be memorized. It is necessary to explain their meaning by the child's natural signs; consequently his first spoken and written words must be equivalents of the same objects he has designated by a gesture, of the daily actions about him, of the qualities he has appreciated by taste, touch, and smell. He drops the sign and speaks. Now, a new difficulty presents itself. The grouping of words, the forming of phrase and sentence, he has no knowledge of, moreover, when grouped he does not grasp the shades of meaning thus conveyed to the hearing person. All this must be carefully shown him. Various studies can be taken up by a pupil after he has secured some hold of language. There are no limits for him but his inclinations or circumstances.

"If a child loses his hearing when two or three years of age, or when even somewhat older, and no educative means are employed immediately, the articulation becomes impaired in a short time. His knowledge of speech and remembrance of forms of expression in language, if measures are taken at once to retain them, develop into a great advantage over those of the same age who never heard. Speech-reading is an ability to follow the varying expression in the face as quickly as they appear, and thus to convey thought through the medium of the eye instead of by the hearing. To do so successfully means an education of the eye secured by practice. Its attainment by the child born deaf grows with its knowledge of spoken language, the child who lost hearing after having learned speech, naturally advances in ability to understand others in proportion to his dependence upon that method of communication; and with the adult loosing his hearing power, speech-reading becomes a high degree of expression-reading, enabling him to follow his vocation and pleasures, save those requiring a somewhat sensitive condition of the auditory sense. Many children are deaf because of a slow perception of sound, not altogether due to aural defects. They must be taught to listen, for without the strain of attention the loudest noises may be unheeded.

"With speech and speech-reading attained, and perhaps the happy addition of some perception of sound, the deaf need not be thrown together as a class distinct from others. They may and do receive instruction in common with their hearing friends, attending leading schools and entering professional duties side by side with them. A perference for the companionship of the hearing proves the existence of a satisfying method of communication."

Resuscitation of the New-Born.—The instrument suggested consists of two parts, the catheter and the ball. The catheter is metallic and curved in one half whose end fits to the shape of the infant's glottis, with one hole on the outside of the passage of air. The curve of the catheter is regulated by the convexity of the floor of the mouth. The exterior end is straight and adapted to one opening of the elastic ball. This ball is made of soft rubber, and has two openings, one with a metallic aperture, to receive the outer end

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of the catheter, and the exterior to allow the entrance of the air. Its capacity is calculated to answer to the inspiratory capacity of a new born's lungs, thus avoiding the risk of their over-distending.

The infant in Sylvester's position, or better still, in a pail of hot water, as in DeForest's. After cleaning the fauces with my fingers wrapped in a cloth, I enter the mouth again with my bare left index pressing the tongue till I feel the epiglottis; I go as far as filling the cavity of the glottis with the point of my finger. Once there, I hold my catheter and carry it to the larynx, when I push the end straight into its cavity. I keep it in place with my left hand, while in my right I fix the empty ball to the outside and I next produce a movement of aspiration that answers very well for the purpose of emptying the new-born's trachea and bronchi of all foreign substances that may have lodged there. I then, clean, the ball and apply it empty again until I believe that the respiratory passages are totally free, and not until then do I force the air into the lungs The movement insufflator ought to be made at the rate of from fifteen to twenty times to the minute and continued with hope of success as long as the beatings of the heart are not totally extinct.—*Loth. Cal. Practitioner.*

The American Electro-Therapeutical Association have resolved to exert their influence in a movement to standardize electro-therapeutical apparatus—coils, meters, electro-static or influence machines, electrodes, et cetera. A committee appointed by this organization is investigating the various subjects, and physicians, experts, and manufacturers are asked "to cooperate in making suggestions, and in relating their experience, and preference for instruments, with reason and data.

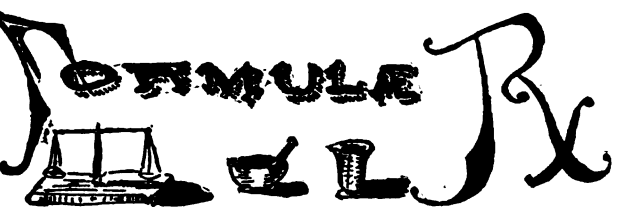
We Call Special Attention to the attractive advertisement of the Labordine Chemical Co., which will be found on ad. page 6, of this journal. We request our readers to write to this company for samples of this preparation which is intended to take the place of coal-tar products, and is purely vegetable in character. This preparation is a safe, effective remedy, and has started out in America under the most favorable auspices, and is indorsed by the profession generally, after being successfully used in Europe for a number of years. Please write them for samples and literature, mentioning the MEDICAL REVIEW.

From C. H. MASTIN M.D. The most prominent surgeon in the South.

Mobile, Ala., Feb. 20, 1894.

DIOS CHEMICAL CO., ST. LOUIS, MO.

GENTLEMEN.—The Sennine which you sent me is a good combination for dry dressings. It is put up in a convenient form and I shall continue to use it to advantage.



Chronic Mania.

℞ Ferri reduct., - - - - - - - - gr.x.
Ext. nuc. vomic., - - - - - - - gr.j.
Sacch. alb., - - - - - - - - - ʒj.
M. F. pulv. Divide in dos. No. 10.
Sig. One powder three times a day.

Laryngismus Stridulus.

℞ Neurosine, - - - - - - - - fℨj.
Chloral hydrat., - - - - - - - ʒj.
Syr. simpl., - - - - - - - - - ℨij.
M.
Sig. Teaspoonful every half hour or hour as required.

Hemorrhoids.

℞ Iodoform, - - - - - - - - - ʒij.
Acid. tannic., - - - - - - - - ʒj.
Extr. belladonnæ, - - - - - - gr.xv.
Vaseline, - - - - - - - - - ʒj.
M. F. ungt.
Sig. Apply on cotton tampon.

Pericarditis.

℞ Pulv. fol. digitalis, - - - - - - - ʒj.
Chinin sulfuric., - - - - - - - gr.xv.
Sacch. alb., - - - - - - - - - ʒj.
M. F. pulv. Divide in dos. No. 10.
Sig. One powder three times a day.

Prostatorrhea.

℞ Neurosine, - - - - - - - - - ℨij.
Sig. Teaspoonful in the evening.

℞ Potass. citratis, - - - - - - - ʒj.
Aq. menth. pip., - - - - - - - fℨiij.
Syrup. simpl., - - - - - - - - fℨj.
M.
Sig. Half a tablespoonful three times a day.

Scrofula.

℞ Elixir of Iron (S. B. M. Co.),
Codliver Glycerine, - - - - - - aa ʒj.
M.
Sig. Teaspoonful several times a day.

Diabetes Insipidus.

℞ Codein. sulfuric., - - - - - - - gr.iij.
Sodii salicylat., - - - - - - - ʒiij.
Aq. menth. pip., - - - - - - - fℨiv.
M.
Sig. Tablespoonful three times a day.

Scarlatina.

℞ Analgine-Laborde, - - - - - - ʒss.
Pulv. fol. digital., - - - - - - gr.vj.
Sacch. alb., - - - - - - - - - ʒj.
M. F. pulv. Divide in dos. No. 12.
Sig. A powder as required to relieve fever.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Some Fresh Points in the Technique of Celiotomy, Extra-Peritoneal Abdominal Hysterectomy and Ideal Myomectomy, With Illustrations.

BY GEORGE WILEY BROOME, M.D,

Professor of Surgery, Woman's Medical College, St. Louis; Surgeon to the Woman's Hospital, St. Louis. Etc., Etc.

Read before the St. Louis Medical Society, March 10, 1894.

NOMENCLATURE.

It is clear to my mind that the term celiotomy should be substituted for that of laparotomy and I think that any one who will carefully read the scholarly contribution to the subject, by the world's most zealous surgical statistician, Robert P. Harris, of Philadelphia, may also become convinced, that in the light of the Greek roots and their original applications, that celio is the proper prefix for use in designating operations through the median line of the belly. The correct synonym for the abdominal section as you know in the German is Bauchschnitt and for laparotomy, Flankenschnitt. But the leading French and Italian operators still cling to the use of gastrotomy in reporting cases of abdominal section.

NARCOTICS.

Narcotics should never be administered in surgical cases, particularly in infected cases or cases exposed to possible infection. These at once become obstupefactory to normal phagocytosis and hence besides masking legitimate symptoms, disturb and delay, tissue proliferation and the reparative process and also tend to intensify the risks of a fatal termination of the life of the patient.

ASEPSIS.

The highest aim of the surgeon must be to guard the patient both during and after the operation, against th injury and danger of wound infection, that is to say i ideal work where a wound is required to be heale quickly it must be guarded against infection and th deposition and development of the agents of decompo sition.

Our best sterilizing agent is heat, especially mois heat, and the safest and most convenient mode of em ploying it, is by the combination device of Thornbur or the ordinary steam sterilizer of Arnold. Moist hea at 266° F., and above destroys all micro-organism and their spores present, in permeable articles, in th course of a few minutes. Whilst we have by thes methods arrived at absolute security in the disinfectio by relatively simple measures, of the surgical material and instrumentarium this is not true in like manner, o our hands and the skin and tissues of the patient, an yet this is an indispensable condition absolutely incum bent upon us in order to secure protection against mi crobial contamination and rapid and undisturbed heal ing of a surgical wound. We cannot hold our hands i the steam nor can we boil or scald them, as Kocher re minds us, but we must content ourselves with mechani cal and chemical sterilization.

The thorough use of hot water and potash (lye soap soap followed by brisk an racted rubbing wit sterilized gauze, saturated with alcohol, in my hand have proven the most reliable of the resources of mun dification upon living tissues.

ANESTHESIA.

In the selection of an anesthetic a good, general rul to observe is ether in all cases except both extremes o age, that is the earlier adolescent and the later obsole cent periods o and also in lung and kidney cases If it should become desirable at any stage of the nar cosis to make traction on the tongue, this is best ex ecuted by means of the gauze twitch, suggested by Dr John W. O'Neil, of St. Joseph's Hospital, Chicago, an which is here objectivized by means of the accompany ing illustrations. (A). Dr. O'Neil regards this as "a pro phylactic measures against one of the possible causes o cancer of the tongue" and I fully agree with him. Th paper relating to the use of these is published unde the title of "On the Use of Gauze in Place of Tongu Forceps During the Administration of Anesthetics an a New Mouth Gag." (B). The Doctor has also inventec

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a most ingenious device for the administration of chloroform, which I cannot too highly commend.

Fig. A.

Incision.

Clean dissection is very desirable in opening the belly. The incision should be carried to the left of the omphalic ring and be long enough to enable the operator to readily deliver the myomatous uterus. I can see no justification in even incising the "umbilical knot" in the absence of a pathological lesion existing in this cicatricial, but useful relic of fetal life. Omphalectomy is certainly never justifiable in ordinary celiotomy.

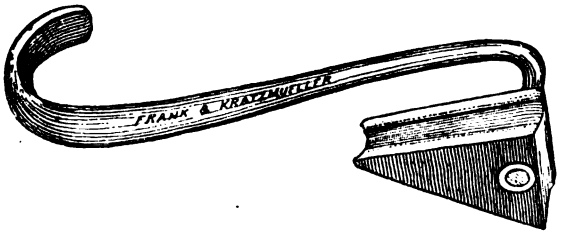

Fig. B.

The cicatricial tissue constituting the umbilicus renders that particular region the strongest part of the abdominal wall. The very dense unyielding fibrous knot possesses double sets of fibres. Those decussating in the middle line and the two sets of circular fibrous bundles which interlace at the lateral bounderies of the ring. Moreover the umbilicus is supplied with guy ropes, (if you will pardon the figure of speech) formed, by means of the obliterated hypogastric arteries and umbilical vein and also by the uracus a most interesting fetal relic of the intra-abdominal part of the allantois which passes up between the apex of the bladder and the omphalos. This keeps the bladder well up so that it shall be above the level of the urethra and so more easily emptied; it also provides, by thus keeping up the bladder that it shall enlarge in a direction which will admit of the greatest amount of distension, that is one between the lower or yielding part of the abdominal wall and the hollow of the rectum, which is compressible.

Traction and Hemostatic Forceps.

The availability of the forceps which is objectivized in Illustration I. can only be fully appreciated by the surgeon who will bring them into use in abdominal work.

Extra-Peritoneal Celio-Hysterectomy.

The extra-peritoneal abdominal hysterectomy first suggested and practiced by Senn affords superior advantages over all other methods in my judgment. By this procedure hemorrhage is not dangerous, being at all times under perfect control and a muniment for the peritoneal cavity, against possible infection, is completely established, a circumstance to which a large number of cases have succumbed by other methods.

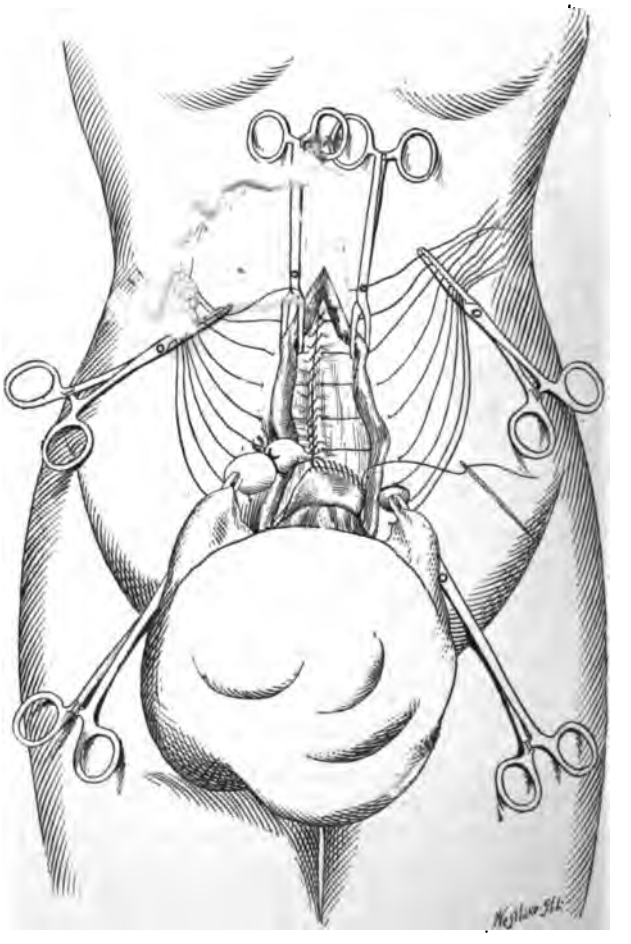

Fig. I.

Position of the Patient for Operation.

The Trendelenberg position is the one best suited for

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this operation as, besides tending to gravitate the intestines and omentum toward the stomach and out of the way, it permits every step of the operation to be seen.

Illustration I. is intended to objectivize the incision wound the myomatous uterus delivered; the point of election of the visceral peritoneotomy and also showing the general plan of the viscero-parietal peritoneorrhaphy and the suturing material together with their applications. The two uninterrupted sutures, which are to be buried, are composed of catgut, whilst the interrupted suture is of silk-worm gut, and I have designated this the munifying sero serous suture as it furnishes additional fortification against intra-peritoneal microbial infiltration, besides aids in the perfect and rapid primary closure of this exceedingly vulnerable cavity.

Illustration II. Suturation of the muscularus.

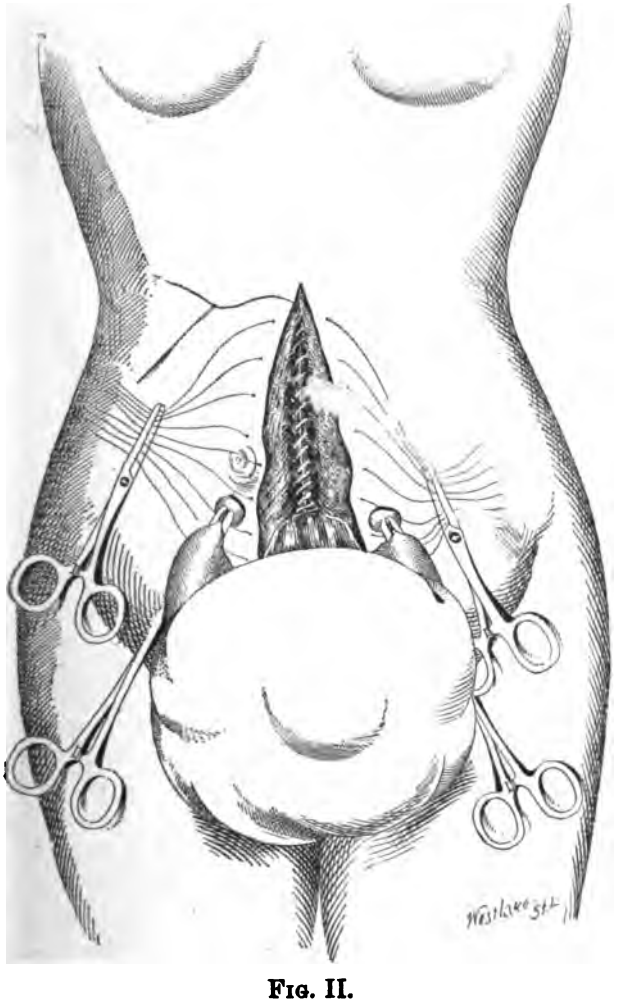

Fig. II.

Illustration III. shows the elastic constrictor applied to the pedicle and the primary incision wound completely closed. Everything in readiness for the amputation of the uterus which may now be done.

Illustration IV. Objectivizing the uterine munnion after having undergone exposure to the operation of technocausis. The elastic constrictor is seen low down in position and completely controlling hemorrhage from the uterine arteries.

Illustration V. Ideal myomectomy.

This is an attempt to show the reposition of the uterus and incised viscera in integrum, the end of the iodoform gauze tamponade brought through the cervix and vagina.

This operation was recently described by one of the foremost and one of the few original gynecologists of America, I mean Prof. James H. Etheridge, of Chicago, but he was particular, to accord to Senn all the honor for having originated this method of vaginal drainage after laparo-hysterotomy for the removal of a myofibroma.

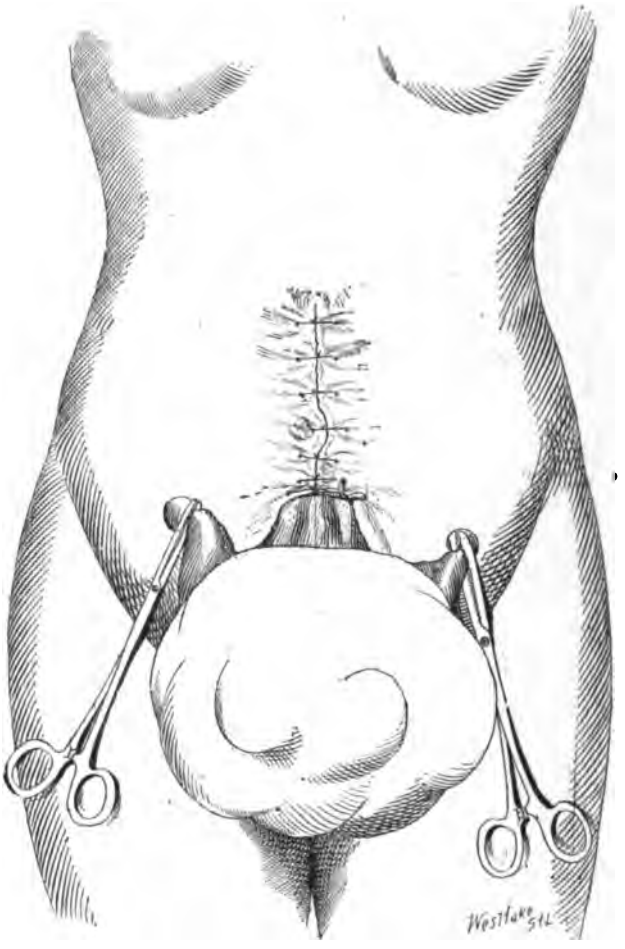

Fig. III.

Dry Sponging and Dry Dressing.

I am strongly partial to dry dressing and dry sponging. I believe that one of the greatest achievements of scientific surgery belongs to the future in this particular direction. When practical surgeons become more familiar with the life habits, growth and development of the pyogenic microbes, then they will learn to appreciate more fully the importance of an early and absolute abandonment of the practice of irrigation and I furthermore wish to make this declaration now: that ideal surgery can, in the near future, contemplate the act of the irrigation of wounds and cavities only in the light of a revolt against the science of regeneration. I mean the statement for a sweeping one covering all cases, and especially pus

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cases. Those very ones that are looked upon to-day as presenting the ideal condition for irrigation, dry sponging is the fresh point therefore that I wish to show whether it be for a pyocelia or a suppurative otitis media, I care not which. Dry sponging and dry dressing will be the practice of the future. Dry sponging is more rational in every respect than the irrigating method or wet sponging. Dry dressings by means of powders have proven more satisfactory because of their inhibitory power.

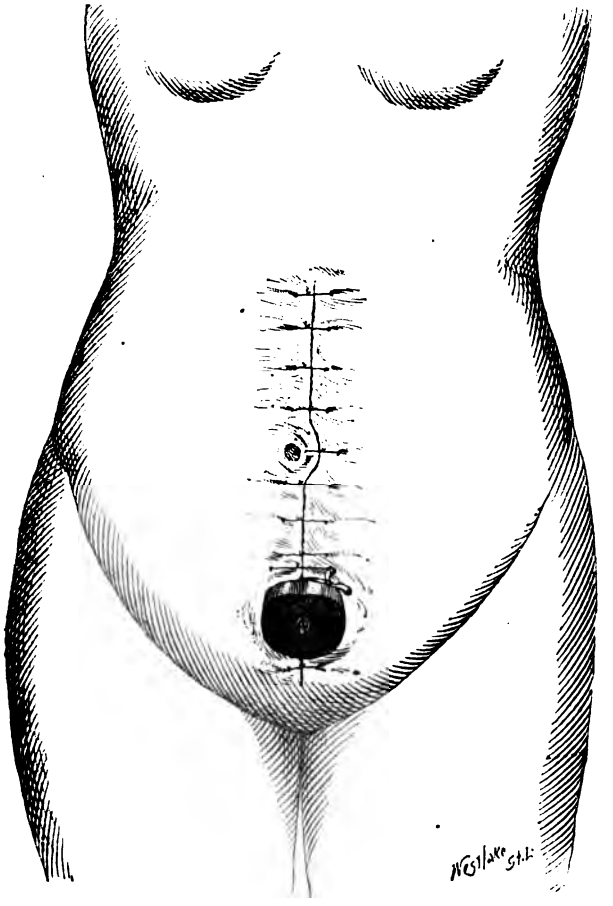

FIG. IV.

The relative value of these powders is a subject I do not care to discuss further than to mention the very great value of iodoform in all tubercular processes and boracic acid and phenol in combination as an ideal antiseptic and desiccant.

You know that iodoform was first introduced to the profession by Mosetig Moorhaf in the year of 1880 and is composed of alcohol, iodine, carbonate of potash and water, and its real merit, as an inhibitory and anti bacillary agent depends upon its slow decomposition and the liberation of iodine. The latter acting in two different ways. The one is the antiseptic property of iodine destroying germ life, the other is the chemical property of iodine to eliminate the toxines by the formation of insoluble salts with the toxines rendering them insoluble and therefore unabsorbable and thus innocuous to the system. The hygroscopicity of the impalpable powder of boracic acid is too widely known to require further explanation, and since the father of antiseptic surgery still clings to the use of carbolic acid I need scarcely consume your time in commending the inestimable value of a combination in powder form of boracic acid and phenol. These have been happily incorporated under the name of "Sennine" and I know of nothing superior as a topical dressing to prevent parasitism and thus secure the early and rapid healing of a surgical wound.

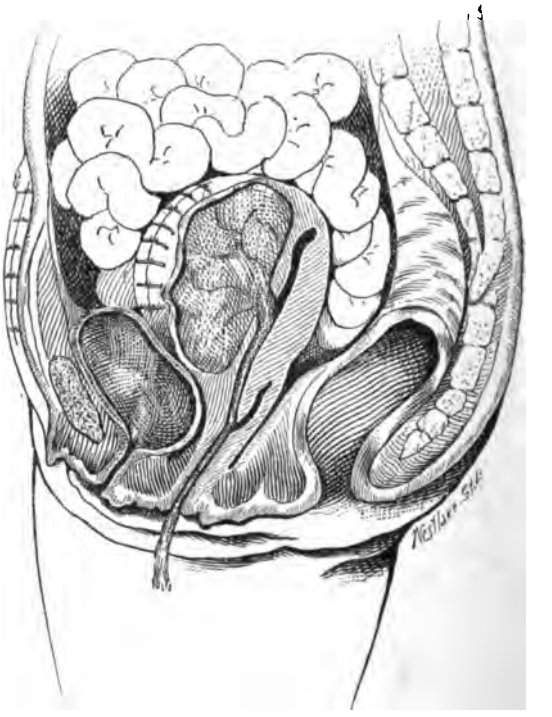

FIG. V.

LAVAGE.

Lavage of the stomach was first practiced by Kussmaull, of Heidelberg, principally for diagnostic and analytical purposes, but I have come to regard lavage as an exceedingly useful surgical resource especially in cases upon whose stomachs an operation is about to be made, and also in those cases suffering from nausea and vomiting after a surgical operation has been performed.

CONCLUSION.

With the hope of stimulating a spirit of emulation I would like to add in conclusion that the greatest achievements already accomplished in abdominal surgery, necessarily belong to America. McDowell, nothing daunted for the lack of a precedent, was the first to make an ovariectomy, and Burnham in 1853, and Kimball in 1855, both Americans, were the first to successfully make myomectomies, so that abdominal surgery is truly of American origin. Let us therefore not be wanting, in extending and broadening the usefulness of this very important procedure which was (as it were)

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bequeathed to us in trust by its distinguished originators. Let us accept the trust and work for its perfection until it will become a universal blessing, a perpetual fountain of joy to suffering humanity and a priceless honor and boon to American Surgery.

Medical Ills.

BY WM. V. LOFTUS, M.D.

Read before the St. Louis Medical Society, March 17, 1894.

The great financial and industrial depression which has been so disastrous to all commercial pursuits in this country, has not been without effect on the practice of medicine. But, while the public is fully informed in regard to the damage inflicted upon various business pursuits, it is not at all probable that any cry of distress will come from the medical profession, even if a much longer delay is experienced before the normal prosperous condition is restored. This opinion is based upon the observation of many years, that the profession has borne, without any loud complaint, troubles which seriously affect its well-being, and concerning which it is the purpose of this paper to treat.

For a great many years, something has caused too many of our young men and those of other countries, to cast their lots with us to become members of our profession. The consequence has been, that the number of those who are now nominally engaged in the practice of medicine, is many times greater than is necessary for public demands, and many more times greater than is compatible with professional prosperity.

As it is the duty of every physician to do all in his power toward maintaining the high character of the profession which honors him, in the face of the danger which the excessive crowding of our ranks portends, or, to speak more correctly, while witnessing the injury which is constantly being done those who are engaged in medical practice by the overproduction of medical talent, the time is opportune for reminding our brethren that a display of zeal will not be amiss.

It may not be proper to charge our medical associates of the present day, with being blind to our interests, because their silence and inactivity may be owing to a sense of deference, which should be due to those who occupy the highest positions among us. But it should be borne in mind that, while we are a fraternity, bound together by the same rules, our interests are not identical, and in this particular instance, where the great body of the profession is being injured, some of its members are being benefited by that which results so disastrously for others; and it is a significant fact, that many of those who are thus benefited are regarded as our leading men. Consequently, there is no excuse for delay if active interference will avail anything.

There is, however, another issue which engages the minds of our brethren to such an extent, that it may be chiefly instrumental in directing attention from other matters. This is the question of irregular practice, a great and growing menace to the safety of what is left of general practice. Still it is scarcely more than the secondary manifestation of our prime affliction, which has been alluded to.

The irregular practitioner bears the same relation to us, that outlaws, pirates, buccaneers, etc., bear to all law abiding people. Outlawry, under its various names flourishes most uninterruptedly in those countries which are badly governed; and as neither the laws by which the regular profession is governed, nor the state laws make any provisions by which medical bandits may be put under even the shadow of restraint, it is not at all singular that the ranks of the freebooters are being constantly recruited from the thousands of regulars, whose identity is lost—crushed out—by the human avalanche which is precipitated upon them from medical colleges each year. Still our medical societies and journals keep up a desultory species of "picket-firing" at these unblushing offenders, and, while it does the enemy no harm, it causes some smoke to arise over the domain of regular practise which evidently satisfies the rank and file, and leads to the belief that our leaders are of invincible spirit and will eventually "carry the war into Africa."

There is also another question which is closely allied with that of irregular practice, about which, probably, a great deal of thinking is done, and concerning which something is occasionally said, but, notwithstanding these intellectual forces, which have been engaged thus for many weary years, the subject—our "Code of Ethics"—remains unchanged.

This, therefore, is the condition to day of the affairs of the medical profession in the United Stases, a country where uneducated laborers (not to speak of many other classes), have organized and have succeeded in, materially, improving their condition. Yet an organization, composed of men whose intelligence is of such superior character that it has always commanded the distinction of being known as one of the learned professions, this body of men so highly favored in the respect mentioned and so formidable in numbers, drift helplessly along, apparently devoid of that instinct or principle—Nature's first law "self preservation," or are too feeble or effeminate to exercise it.

Now, while all this appears to be incontrovertible, it is so unnatural, that it must be one of those instances of which it has been said, "Things are not what they seem." Physicians, after all, are only human beings, are only flesh and blood, although the belief once prevailed, and some traces of it yet remain, that medical men are of a higher order of beings than ordinary mortals. Such a belief, however, will scarcely find lodgement with the multitude of practitioners, who are wholly engrossed in plans and schemes which relate either to the procurement of daily bread or to the requirement of a surplus of American dollars.

If a past generation allowed itself to degenerate into a condition of servility, impotency and decay, it is

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no reason why the present one should help to perpetuate failings which are so abhorrent. If a part of our profession has seen fit to humble itself, to lay down and crawl in the dust, while the other part walks over it, the experience cannot be so pleasant that it must be kept up for all time to come. We are a fraternity and like other associations, are governed by a certain set of rules and laws that were intended to be fair and just to all. It is not in either the letter or spirit of our code nor was it the intention of those who framed this instrument, that it should give support or shelter to an iniquity of any kind. Now, if our laws permit such a state of things, and they evidently do, it is on account of unexpected developments, and because those whose duty it has been to legislate for us have neglected their duty. But it is never too late to mend, and why not proceed toward amendment now?

It has been mentioned, in the opening paragraphs of this paper, that our chief affliction is the overcrowding of our profession. Now, if the new material, which gives us such vast, unwieldy proportions, was the product of some machinery over which we had no immediate control and was situated outside of our professional domain, it would be a more difficult matter to regulate the supply. But the supply is not the product of outside institutions, it comes from medical colleges, and these colleges are under the control of members of our profession.

The revered source of our professional existence, our benign and chaste "Alma Mater," is the medical college and it is a sad day for us when maternal respect and reverence dies within us. We will not believe any tales, however well corroborated, that one so near and dear to us, has fallen from her high estate. It is only when repeated evidences of prostitution are thrust upon us, that we believe and tremble and, with bowed heads and broken hearts, steal away.

"Alma Mater," a fostering mother. With names like those sounding in our ears, a vision of an angelic countenance rises up before us, in whose eyes beams the light of love and human kindness and in whose breasts are stored a fountain of life and a wealth of affection.

There is another picture, but this one is not fitted for a heavenly mansion or even an earthly abode; there is a place, however, where it may be appropriately hung. It is also the picture of blessed female—a mother—who rips from her womb a numberless progeny, and casts the helpless fledglings into a barren field. The hungry, wailing cry of the new-born always touches a responsive chord in the hearts of the poor, and these with their nidon's mite, had erstwhile kept aglow the vital spark in the helpless castaways; but as they now appear, the monster mother's wrath increases, a pale blue flame lights up the gloom around her, a baleful glare shoots from her eyes, her nostrils emit a sulphurous vapor and, stretching out her long spare-like arms and hands she gathers those in, who were on mercy bent and addresses tham thus: "Behold me in my greatness, heed not my useless offspring, pass not by my doors, for behold I am a medical college, and I have a free dispensary prepared for you."

There are among the writer's medical friends and acquaintances, members of college faculties who feel justified in their positions. They claim that remaining in, what may be termed, the ranks, is to court extinction, wives and children looked to them for support and they have felt justified in taking the advantage of any local opportunity which presented itself for bettering their condition. If all who are vainly struggling for a competency in the medical profession, could find relief by organizing colleges, the medical atmosphere would soon acquire a healthy tone. But it has been discovered that many who have sought distinction and success in this way have dismally failed.

Hence it may be seen that there is only one remedy for this evil. Medical colleges, under proper restrictions are one of the public institutions of which the people may be proud; but when they degenerate into private vehicles for the elevation of a few selfish individuals, at the expense and to the certain ruin of the many—as is the case in this country—they become nuisances. Therefore, instead of organizing other medical colleges, let such of our brethren as have the means and ability, turn from the ignoble work and come to the rescue of the multitude of their associates, who are being fatally stricken by the ills herein alluded to. Let it always be remembered, however, that bad as other influences are—and some of them are exceedingly bad—that none of them compare with the effect of medical colleges in malignity, and as being the spots from whence emenate the pestilential scourge which is destroying the profession. They have become nuisanses not to be regulated, but which require prompt and thorough abatement.

Notes on the Treatment of Hemorrhoids.

BY WILLIAM F. WAUGH, A M., M.D.,

Professor of General Medicine, Post-Graduate Medical College, Chicago.

No one whose attention has once been directed to rectal affections can fail to be impressed with the fact that they are of very frequent occurrence, and that they are much neglected by the general practitioner. One meets constantly with cases like some I am about to describe, where physicians of highly respectable attainments have overlooked the dependence of illness upon disorders of the rectum.

A young married woman had been for years in poor health, suffering a gradual decline, which had produced extreme anemia, profound debility, breathlessness on slight exertion, and edema about the ankles. These symptoms were attributed to pulmonary consumption by her physician, who, however, was so advanced in

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years that his hearing and sight were impaired, and who based his opioion on "general principles" solely. Something directed my attention to the rectum, where I found two large bleeding internal piles. The history indicated that these were the cause of the debility and that they had been bleeding for years, without the patient's knowledge. I gave her bromic ether, dilated the sphincter, and injected each pile with a few drops of carbolic acid solution, five per cent. This is the best strength for the purpose, as it amply fulfills the object; which is to set up adhesive inflammation by which the congeries of dilated vessels is obliterated. If a stronger solution is employed, sloughing may occur, and a troublesome ulcer remain. The case was cured, and the woman rapidly regained her health.

During the summer of 1893, I was called to Atlantic City to attend a lady who was in much the same state as the one just described. The second case was, however, attributed to a specific taint, contracted from the husband through pregnancy. The child had died of syphilis. She improved so little under specific treatment that I was convinced there must be another cause in operation. Investigation showed that she had a prolapse of the rectum of many years' standing and a bunch of large arterial piles, from which hemorrhage occurred with every stool. I gave her bromic ether and dilated the sphincter fully. Some relief followed, but so little as to show that this operation was not by itself sufficient to compass a cure. The following weeks I injected successively four large piles, with the above-mentioned carbolic solution. The results have been exceedingly satisfactory, enough to make this family declare that "life is once more worth living." The patient has reacted and is now putting on flesh and the rosy hue of good health.

In both these cases a notable feature has been that the stoppage of a hemorrhage that had lasted for about ten years, was not followed by any unpleasant symptoms showing that the system had become accommodated to the flux. On the contrary, the restoration to health was rapid and uninterrupted.

These two cases are simply selected to illustrate the fact that the specialists are mistaken who claim any one operation as a "cure-all," for all cases of hemorrhoids. Dilatation is a valuable procedure, and in many instances it alone will produce a cure; while it is a requisite in all where there is hypertrophy or spasm of the anal sphincter. But bleeding piles require injection, the ligature or the clamp and cautery, and dilatation is but one step in the treatment.

When I first began to employ the injections, I made the mistake of relying on them and neglecting to dilate; but a little experience remedied this. Injection alone is only available when the sphincter is somewhat relaxed and the piles protrude without any sign of constriction. Even here, the injections should be followed by linear cauterization; a procedure of the utmost value in complete paralysis of the sphincter with rectal prolapse.

EDITORIALS

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

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Fin De Siecle Surgery.

While it has been proven by careful scientific experiments and by men of international reputation that living tissues once infected by bacteria cannot be sterilized by mere application of, or irrigation with, any of the antiseptics known at the present day and that in the treatment of infected tissues the best that can be done by irrigation with antiseptic fluids is to wash off the bacteria from their surfaces, it cannot be denied that there are remarkable men in the medical profession, who, by a process of reasoning peculiar to genius, by intuition or inspiration, arrive at facts and solve problems, which the most careful and profound investigators have been trying to solve in vain. It is to be deplored that some geniuses and particularly medical geniuses, are extremely modest and are too apt, as far as the communication of their discoveries to the medical profession and their publication in medical journals is concerned, to hide their lights under the bushel; for of the most revolutionizing discoveries we not infrequently receive the first intimation by the daily press.

Of a discovery of this kind, by Dr. Heine Marks, Vice President of the St. Louis Medical Society, we are informed through the columns of the St. Louis *Republic* of March 18, 1894, as follows:

To Cure Cholera.—Dr. Heine Marks Believes That It Can be Done by Surgery.

Cholera, which has always been regarded as incurable after certain stages are reached, will soon be triumphed over by surgical skill. Dr. Heine Marks, Superintendent of the City Hospital, has given the subject a great deal of attention, and has come to the conclusion that the epidemic disease can be cured even after collapse has begun. Typhoid fever can also be cured by the same process, but as it is not so fatal as the other, the surgeons prefer to rely upon the remedies of the materia medica instead of having the patient undergo a surgical operation. One of the objections to employing the operation in cases of typhoid fever is that the patient is never ill enough to justify such heroic treatment until the last stages of the disease, when he is too weak to survive the shock.

The method which Dr. Marks believes would be successful in treating cholera patients is to open the abdomen at the same place as in an operation for appendicitis, or just above the ilio-cecal valve. When this incision has been made, an opening is made in the intestines and a silver tube inserted. An artificial valve is then made and the intestines flooded with an antiseptic solution. The trouble with all operations which were similar to this in that they were made for the purpose of flushing the intestines, has been that the fluid did not circulate through the diseased parts and what got into the system was by absorption by the mucous membranes. By Dr. Marks' process, the intestines can be flushed with antiseptic fluid and a case of cholera can be cured in a few hours. A remedy to be successful in curing cholera must be one which will act at once, as the patient seldom lives long enough to wait for the slow actions of the remedies which have been employed heretofore.

There is a stage of cholera which is usually known as "collapse" and when that is reached the patient is generally regarded as beyond all hope. When the patient reaches this stage is the time that the new process would be most effective.

It is agreed by the bacteriologists that the bacilli which cause cholera and typhoid fever are located in the same portions of the intestines. Bacilli cannot live when deluged by sterilized water or any other anti septic fluid. The patient would not suffer any great inconvenience from the operation and would experience relief within a few minutes after the remedy was applied.

Dr. Heine Marks was seen last euening and at first refused to talk about the operation, saying that there were no cholera cases in the city and until there were he would rather not say anything about his new method of curing it. At length, however, he said: "There is no reason why cholera cannot be cured. Typhoid fever can also be cured by the same remedy, but as the mortality is not so high in that disease, it would not pay to operate in typhoid fever cases unless the disease became epidemic. If cholera ever invades this city I shall certainly use my new method, which consists in making an incision and flushing the intestines. I am confident that it can be cured in that way. Operations upon animals have convinced me that it is entirely practical and I believe that it will soon come into universal use."

We have already admitted in a recent editorial, that the public has a right to know something about the great discoveries in medicine as well as in any other science, but we think that it is the opinion of all well educated and well balanced minds, in- or outside of the medical profession, that such discoveries, before they are discussed in the daily press, should have stood the test of rational criticism, and should have first been placed before the scrutinizing minds of men working in the same field and having some right to discuss the subject and who, in consequence of their competent and laborious researches on the same or a similar subject, enjoy the confidence of the whole scientific world.

When an electrician informs the public that, some day, he will be able to send a telegraphic message over the Atlantic Ocean without any other conducting material than the air, this is a comparatively harmless matter; but when a physician, who holds a high office in a reputable medical society informs the public through the daily papers, that he can cure certain diseases by a harmless operation—a laparotomy—without a previous scientific discussion and criticism by men enjoying the confidence of all reputable physicians, such information is anything but harmless. However, we do not think that any wrong was intended and look forward with much interest to the publication through the proper channels, the medical journals, of Dr. Marks' experiments, and are anxious to learn the scientific facts upon which he bases his opinion as to the justifiability of his surgical treatment of cholera. Anticipating, with certainty, a grand success with this new method of treating cholera, we take the opportunity of congratulating Dr. Marks upon this wonderful discovery, for which he deserves—among *his* competitors—excepting, perhaps, a great Western brain-surgeon, the crown in *fin de siecle* surgery.

Excessive Intestinal Putrefaction.

That the absorption of the chemical products of excessive putrefaction in the bowel must have a deleterious effect upon all the tissues of the body seems *a priori* very probably and changes in the blood as well as affections of the nervous system have been attributed to the same. Some very interesting investigations with regard to the relation between excessive intestinal putrefaction and certain diseases have been made by various authors, among them Dr. C. A. Herter, who stated at a meeting of the New York Academy of Medicine January 18, 1894, that "the facts brought to light two years ago regarding the occurrence of excessive intestinal putrefactien in epileptics, had stimulated an inquiry into the occurrence and character of the putrefactive processes in the intestine in other conditions than

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epilepsy. The inquiry made it clear that deviations from the normal character and degree of this putrefaction were met with in association with a variety of morbid states. It had long been known that a variety of aromatic substances, including indol, phenol, etc., were produced by the action of anaerobic bacteria upon proteids, and also that this process occurred normally, to some extent, in the intestine when nitrogenous food was introduced. Careful observations were made, with the aid of an expert chemist, upon the ethereal sulphates in forty cases of epilepsy, eight cases of melancholia, and eight of Bright's disease, and in a number of cases of anemia, pernicious anemia, leucocythemia, catarrhal jaundice, exophthalmic goitre, and many other diseases."

The author deduced the following conclusions, as a result of his investigations:

1. An excess of the ethereal sulphates in the urine was evidence of excessive putrefaction of proteids in the intestine, the exceptions to this being in cases of suppuration with free drainage, and where such drugs as creasote and salol had been administered.

2. The indigo-blue of the urine was not necessarily proportional to the ethereal sulphates, and was to be regarded as due to a special form of putrefactive decomposition.

3. The regular occurrence of more than a trace of indigo blue was to be regarded as pathological, although in robust persons there might be very little evidence of disordered digestion for a time.

4. The presence of indigo-blue in the urine of children was no evidence of the existence of a tuberculous process.

5. Intestinal flatulence was oftener associated with intestinal putrefaction than any other symptom of intestinal indigestion. Epigastric pain and tenderness, the sense of emptiness, and nausea bore no relation to the ethereal sulphates.

6. Both constipation and starvation might increase the putrefactive products in the urine.

7. Epilepsy, acute melancholia, and chronic Bright's disease were usually associated with excessive intestinal putrefaction.

8. The treatment of excessive intestinal putrefaction by means of drugs was at present unsatisfactory.

9. The use of rare beef and of milk, and the exclusion, as far as possible, of vegetable nitrogenous food were important and effective means of reducing intestinal putrefaction and of relieving symptoms of intestinal indigestion.

10. The relief of intestinal symptoms could not be ascribed wholly to the effects of a milk and beef diet, for such diets reduced the excess of uric acid which was observed in many cases of intestinal indigestion.

11. The treatment of epilepsy by means directed to the intestinal condition led, in many cases, to a reduction in the number of the seizures and to marked improvement in the general health.

12. It was probable that that in some cases of epilepsy in children the early seizures were determined by intestinal derangement, and that certain treatment directed to the correction of the putrefactive excess might improve or even cure some cases, in the sense of preventing the establishment of the epileptic habit.

Diagnosis of Typhoid Fever.

Dr. Abrsztsow, of Kiew, at the meeting of the Fifth Congress of Russian Physicians called attention to the value of palpation of the ileum and mesenteric ganglia in the diagnosis and prognosis of typhoid fever (*Universal Medical Journal*). For the past four years he had observed, in examining the right iliac fossa in cases of typhoid fever, that in sixty per cent of the cases an intestinal loop could be felt beyond the cecum, about the size of the index finger, of varying consistence, and at the level of which pain and gurgling were localized. This loop, situated at the base of the right iliac fossa, is from six to eight centimeters in length, directly obliquely from above below, from within outward, its upper end being in relation with the internal part of the exterior surface of the cecum, its lower end near the outer edge of the right abdominal muscle. A horizontal line from one antero-superior iliac spine will divide this loop in two equal parts seven centimeters from the right iliac spine. Autopsy verified the author's belief that this loop was none other than the terminal point of the ileum where it joined the cecum; and clinical observation has shown that the larger and more painful this loop, the graver the prognosis of the case. The author has also observed, at the base of the abdominal cavity in the region bounded by the external edge of the right muscle on the inside and the internal edge of the ascending colon on the outside, several mesenteric ganglia of the size of a plum or a nut. These also indicate a grave prognosis. After examining several hundred patients, Obrazstow feels warranted in declaring these two signs to be of the greatest value in the diagnosis and prognosis of the disease, although their absence does not exclude typhoid fever. They are also of value in the differential diagnosis between typhoid fever and the typhoid forms of acute tuberculosis. In palpating the ileum, the right hand is held perpendicularly to Poupart's ligament, seven centimeters from the antero-superior spine of the ileum, at the point where the intestinal loop meets this line. The palpation should be made with delicacy, in order to avoid contraction of the muscles of the abdominal wall. To find the mesenteric ganglia, the fingers of the right hand are placed near the external border of the right abdominal muscle parallel with the umbilicus, carefully palpating the left half of the lumbar vertebral region, below and outside the right abdominal muscle; the angle formed by the ileum and the colon will show the hypertrophied ganglia of the mesentery. As the palpation of these points is often rendered difficult by the sensitiveness and swollen condition of the large intestine, it will be seen that the greatest delicacy of touch is required.

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BOOK REVIEWS

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.A., M.D., LL.D. Eighth Edition, Revised and Enlarged. 1893. Price, Cloth, $5.00; Sheep, $6.00. New York: D. Appleton & Co. St. Louis: J. H. Chambers & Co., 914 Locust Street.

Any work that is able to more than hold its own through nearly a score of years, and particularly in this age of widely disseminated graphomania, does not re quire any commendation on the part of the book re viewer. Its past record is the all-sufficient measure of its merit. Cisatlantic physicians and students of medicine have grown to look upon Bartholow's treatise as a vade-mecum on their excursions into the field of therapy, and they, no doubt, will welcome this old friend clothed in a new garb. E. C. R.

A Treatise on Headache and Neuralgia, Including Spinal Irritation and a Disquisition on Normal and Morbid Sleep. By J. Leonard Corning, A.M., M.D. With an Appendix. Eye Strain, A Cause of Headache. By David Webster, M.D. Illustrated. Third Edition. New York: E. B, Treat. London: H. K. Lewis. St. Louis: J. H. Chambers & Co., 914 Locust Street. 1894. Price, $2.75.

Headaches may be due to so many different pathological conditions that their discussion is of great interest to everybody and particularly to the physician. The chapters on this subject as well as those on Spinal Irritation, Normal and Morbid Sleep and Eye Strain are very instructive and treated in a scientific manner. The language is clear and concise and the type very large. The book is a credit to its authors and its reading will prove of much benefit to students as well as practitioners.

Medical Jurisprudence, Forensic Medicine, and Toxicology. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics, and Hygiene in the University of the City of New York, etc., and Tracy C. Becker, A.B., LL.B., Counselor-at Law and Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. In Four Volumes. Volume I. Large 8vo., pp. 845. Illustrated with wood-cuts and two lithographic plates in colors. Price, in muslin, $5.00; in brown sheep and in law style, $6.00 per volume. Sold by subscription only. New York: Wm. Wood.

The first volume of this excellent work is before us. The type, paper, press-work and binding are examples of the best work. The text is illustrated by line and half-tone engravings and chromo lithographic plates. The illustrations are good. The various subjects are treated in an exceedingly interesting, practical and comprehensible manner and by men who are specialists in the branches represented, having devoted study and research to the particular subjects upon which they write. The method followed by the editors is the same as that in the Reference Hand Book of the Medical Sciences, and like this, the book is of great usefulness and value to every practitioner; in fact, the names of its contributors are sufficient guarantee of its excellence.

Can be had through J. H. Chambers & Co., 914 Locust Street, St. Louis, Mo.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, March 17, 1894. The President, W. B. Outten, M.D., in the chair.

Dr. Ohmann Dumesnil presented the same patient whom he had brought before the Society two weeks ago, and who had a peculiar eruption on the upper portion of the chest and face. It was contended, by a number of members, that the eruption had occurred as a result of impure vaccination, whereas the doctor presented it as one of specific origin. Since his first presentation the patient has been under active anti-syphilitic treatment, receiving 1/6 grain bi chloride of mercury three times daily. The eruption has changed very materially and now presents the typical appearance of a circinate syphilide. The induration has disappeared to a considerable extent.

While admitting that the impure vaccination might have modified the eruption, the doctor still believed that it was syphilitic in character. He had come to this conclusion after carefully consulting all the reliable authorities, especially the English who pay particular attention to the results and complications of vaccination, and he failed to find a single reference to a like case under the head of vaccinia poisoning.

Dr. Pollak still believed that the case is one of septic eruption. The cases he saw during the war, 100 or more, got well in from four to six weeks.

Dr. Johnston asked Dr. Dumesnil, how he made a differential diagnosis and how the septic eruption changes the specific one?

Dr. Dunesnil replied, that any inflammatory eruption will modify a syphilitic one. Vaccinia, being eminently an inflammatory eruption, is characterized by vesicles which make their appearance at the weakest points. A syphilitic eruption constitutes a weak point in the cutaneous structure, and is surrounded by the inflammatory vesicular eruptions which coalesce and form

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a serous ring. The serum dries up and forms a scab, which is in turn surrounded by a second serous ring of inflammatory origin. He had seen syphilitic eruptions produced by vaccination, where the virus was obtained from a scab. A differentiation could be made by the induration existing in a partially healed specific lesion.

Dr. A. H. Meisenbach presented a specimen of

Diseased Testicle,

removed from a patient on the morning of the same day. The history of the case could be obtained only very incompletely as the patient could talk only a foreign tongue. When examined by palpation, the tumor gave evidence of being a dense hydrocele, but the pathognomonic sign, translucency, was absent.

The tumor was very easily enucleated and the enlarged cord tied off, transfixion being necessary to control hemorrhage. Upon section it was found to be a degenerated testicle, partly cystic in character but containing considerable chondromatous substance dispersed throughout the glandular structure and especially at the point of the globus major of the epididymus. The epididymus itself was almost completely obliterated. Taking into consideration the structure present and the history of an eight month's growth, one would classify it either as a chondro-adeno-cyst, or a chondro-cysto-carcinoma. The true diagnosis can be made only by the microscope.

He also presented three patients who had sustained compound fractures of the skull.

The first patient had been injured on Jan. 20, 1891, by a falling brick. When first seen he seemed very little disturbed by the blow, but had a scalp wound to the left of the longitudinal sinus just behind the coronal suture. The depression of the bone could be easily seen. No symptoms appeared at the time to indicate interference in the case, nor have any signs of cerebral disturbance manifested themselves since.

The second patient had been injured on May 29, 1892, by a blow from a base ball bat. The result was a simple, depressed, stellate fracture of the parietal bone, a little posterior to the parietal eminence. The patient was not unconcious but somewhat bewildered, and it was thought best to cut down upon the fracture, elevate it and remove the fragments. This was done.

The injury in the third case was inflicted by the kick of a mule, the patient being a small boy and the injury occurring on April 3, 1893. The fracture extended from the inferior curved line of the occipital bone, across it to the parietal bone. The patient was comatose several hours after the injury and vomited several times. In operating, the bone had to be elevated from the lateral sinus, but no hemorrhage resulted as there was no impingement of spiculæ upon this canal.

In reviewing the history of these cases and others occurring in his practice, the doctor came to the conclusion that no definite form of treatment could be followed in all cases. We must be guided by the symptoms of cerebral disturbance occurring soon after the injury, and the anatomical location of the fracture. The fracture may be located in a part of the skull where a depression would not impinge directly on the brain substance, as over the longitudinal sinus, and when the depression would be equalized by the underlying structures without cerebral disturbance. In these cases operation would not be necessary. Then the fracture might impinge directly on the brain substance over a moter or sensory area, in which case operative interference is imperative. A third class of cases are doubtful. While the treatment of every case must be individualized, in a case of doubt operation should always be resorted to.

Dr. Meisenbach also considered the trephine unnecessary in operations of this kind, the object being that too much bone is sacrificed by its use. Surgery, he said, is partly mechanical and should be conducted upon mechanical principles. The objection to the use of the chisle, is the improper shape of the surgical form and the improper manner of holding the instrument. The form best adapted to surgical work is the ordinary joiner's tool.

Its advantages are:

1. There is not so much likelyhood of hitting the fingers with the mallet.
2. The operator has full control of the point.
3. He has full view of the field of operation.
4. He has an edge which is in harmony with mechanical principles.

Dr. Funkhouser agreed with Dr. Meisenbach, in regard to the individuality of each case, and also in regard to the necessity of operating when areas of special sensation or motion are impinged upon by depressions. Especially is this true in cases of depression over the occipital lobes, the area of vision, and also in connection with the cerebrum anterior to the ascending frontal convolution, the motor area of the muscles of the eye.

While there are some cases in which the depression is well defined and in certain locations, as over the longitudinal sinus and below the antero-occipital or parieto-occipital fissures, in which operative interference need not necessarily be had, we can never feel absolutely safe that no symptoms will appear after some time. Even in the case presented to-night, and a similar one treated by himself in which there were no immediate symptoms and in which he did not operate, he did not feel perfectly sure that cerebral disturbance might not result. Cerebral sclerosis, or any other degenerative process resulting some time after the injury, often times remains unrelieved even after an operation.

The speaker also agreed with Dr. Meisenbach, in regard to the use of the chisle and the form of instrument employed.

Dr. Shaw, while admitting that some cases of depressed fractures may remain forever without cerebral complications, thought that this result was a rare exception. In the vast majority of cases there will be, sooner or later, some symptomatology developed according to the area involved, no matter how slight the

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injury to the skull might have been. As soon as we have an extension of the lesion to the brain substance, we may have epileptic phenomena developed.

In the case of a depression occurring over a sinus, it becomes a question, of course, not of the area of brain involved, but the possibility of disease of the membranes causing epileptic manifestations at a later day. Since the introduction of antiseptic surgery, trephining is no longer considered the first step in signing a death warrant, and it can be done with very little risk to the patient's life. He believed it the duty of the surgeon to operate in every case of depressed fracture of the skull.

Dr. Outten believed that the question of trephining in depressed fractures, has gotten to be a "bugbear" for the surgeon. He did not believe in trephining, unless there were some symptoms present to indicate disturbance. Whenever a case of epilepsy presented itself and a history of depressed fracture could be determined the fracture was at once blamed for the epileptic condition, other possible causes being lost sight of. He had in mind a case, in which there was a necrotic tibia and also a depressed fracture of the skull. The patient was an epileptic, but was relieved of this condition when the necrosed portions of the tibia were removed.

He also thought that the chisle should be used instead of the trephine, as thereby no bone tissue is unnecessarily sacrificed.

Dr. Y. H. Bond presented two

Fibroid Tumors,

removed from an unmarried woman, 26 years of age. They were situated subperitoneally, one just above the cul-de-sac on the posterior surface of the uterus, and the uther on the anterior aspect of the uterus. A diagnosis was very readily made with the patient under the influence of an anesthetic. The removal was accomplished without difficulty, except in the case of the tumor in the cul-de-sac. The pedicles were tied off, and enough of the capsule allowed to remain to permit of a continuous whip suture being made. The ovaries were not interfered with, it being thought best to preserve the generative life of the patient.

The doctor recalled, briefly, the classification of uterine fibroids into subperitoneal, removed by tying off the pedicle; uni-nuclear and multi-nuclear interstitial fibroids, by enucleation; and the submucous variety, which are removed through the uterine canal.

Medical Ills.

Dr. Wm. V. Loftus read a paper (See page 265), on this subject.

Dr. John S. Billings, of the United States Army has been elected an honorary member of the Royal Academy of Medicine of Belgium; also to membership in the International Statistical Institute, which has its headquarters in Rome.

St. Louis Obstetrical and Gynecological Society.

Regular Meeting, Thursday Evening, Feb. 22, 1893,

A Sub-Peritoneal Uterine Myoma.

BY F. J. LUTZ, M.D., ST. LOUIS.

This is a very ordinary specimen, but it presented very extraordinary difficulties in diagnosis, and I present it, not because of the operation which was done, because these procedures are comparatively simple, but on account of the difficulty of making a diagnosis.

The following is the history of the case: The patient from whom this tumor was removed was 17 years old, and she first came under observation on January 2, 1894. I will not say anything of the family history. The patient at 16 years of age had typhoid fever and was several months recovering. An hemiplegic attack occurred early during the course of the fever; patient still walks with dragging toe, and the paralysis of the upper limb is limited to humeral muscles at present. Paralysis of right facial nerve was concomitant. Patient enjoyed good health after fever; but she had pain in loins at irregular intervals. She has been constipated for years. One year ago she was told of the presence of the tumor. The tumor has grown slowly. Pains have somewhat increased. She last menstruated one week ago, and it was normal in all respects. She has never had abnormal blood flow.

Heart and lungs normal. Examination of abdomen reveals tumor about the size of five months' pregnancy; moveable, uterine cavity not sounded.

Temperature, 99° F. Slight albuminuria at irregular intervals.

On January 14 the abdomen presented the appearance of an enlarged uterus of about the fifth month. The enlargement being central, extending to the umbilicus, and slightly moveable from side to side. On the right side, about one-third of the distance from the anterior superior spine of the ilium to the umbilicus there appeared to be a sulcus in the tumor. No appreciable changes were visible in the breasts. A vaginal examination showed an elongated vagina; the cervix uteri being represented by a depression in the greatly stretched vaginal roof. This depression was on the left anterior side of the vault, and a probe could not be made to enter it. When the tumor was moved from side to side the uterus moved with it. No serious vesical disturbances. No tenderness or pain in region of kidneys.

The diagnosis was myoma of the uterus, probably intramural and impacted. By no pressure that could be made through the vagina could the tumor be elevated upwardly, but it could be moved slightly from side to side.

On January 18 she was placed in Trendelenburg's position and an incision was made from within two inches

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of the pubis to two inches above the umbilicus in the median line. On opening the abdomen the right and left ovaries and Fallopian tubes were found to be adherent to and spread out over the anterior surface of the tumor, presenting the appearance very much like the wings of a bat. The right ovary was so firmly adherent, that a portion of the ovarian tissue was removed. The gap in the ovary was afterwards closed by a continued catgut suture. There was free hemorrhage from the points of adhesion on the surface of the tumor which was controlled by hemostatic forceps.

After liberating the adhesions between the uterine appendages and the new growth, there being no other adhesions, the tumor was readily delivered out of the abdominal cavity, and it was found that it was pedunculated, the pedicle being formed by the peritoneal covering of the uterus. It proved to be a subperitoneal myoma, and was amputated by the silk ligature which was thrown around the pedicle. It weighed eight pounds and seven ounces.

A smaller sub-peritoneal tumor, the size of a hazel nut, was situated three-fourths of an inch from the base of the larger tumor, on the anterior uterine surface. After removing the tumor from the uterus there remained a denuded ellipitical surfaces an inch by two and one-fourth inches, in the center of which was a large artery and vein. These were ligated, and the defect in the peritoneal covering of the uterus was remedied by peeling off from the uterine body the peritoneum for some distance from the wound, and then bringing it together by means of a continuous catgut suture. The abdominal wound was closed by uniting the different layers of the abdominal wall with continuous catgut sutures. There was no drainage.

The difficulty in making the differential diagnosis between intra-mural and sub peritoneal myoma was in this instance unusually great, because of the impossibility of introducing the uterine sound, by which means the depth of the uterus might have been ascertained, as also the direction of the deviated uterine axis. It is true an intra-mural fibroid may be so situated as to produce no measurable changes in the depth of the uterine cavity, but this is the exception.

It is a matter of importance as regards prognosis whether the exact diagnosis has been made. An intramural fibroid in a patient of her age with no hemorrhage, and one in which no degenerative changes have taken place, would have been treated by oophorectomy, and the patient would be so informed. A sub peritoneal fibroid may be enucleated and the patient may be given a more favorable prognosis as to comfort and freeness from pain.

The point I desired to make in that connection was this: That the removal of the uterus which is the site of an intra mural fibroid, is an operation of such magnitude as compared with the removal of a tumor that is sub peritoneal that they bear no relationship the one to the other. An intra mural fibroid of this size, which has undergone no degenerative changes, may, I believe, be properly controlled by cutting off the blood supply, and the bringing about of an artificial menopause. I should hesitate long and consider seriously before I would undertake an hysterectomy in a case like this.

The matter of diagnosis is very important. If the woman be told that this is a tumor, which in all likelihood can be enucleated, the danger to her life is comparatively small in proportion to what it would be if an hysterectomy had to be done. So that when a diagnosis can be made it gives us some very valuable points as regards the prognosis. This tumor was so firmly wedged in the pelvis that the uterine body itself could not be made out by the touch. I could not tell whether or not this was an intra-mural fibroid which perhaps dipped down towards the cervical portion of the uterus. Another remarkable thing about the case was that a tumor so situated and wedged should have produced so little disturbance of the kidneys. Usually we expect to find change in the ureters and frequently in the kidneys in these cases. Evidently the ureters were not impinged upon at all by the tumor. She had no edema, and, according to her physician, had but transient attacks of albuminuria as evidenced by the examination of the urine which he did very carefully. There were no head symptoms at all.

Discussion.

Dr. Hypes.—What was the size of the uterus after removal of the tumor?

Dr. Lutz.—It did not seem to be enlarged.

Dr. Hypes.—You left the ovaries?

Dr. Lutz.—I tore off a piece of the right ovary, but they were not removed.

Dr. Dorsett.—This was a very heavy tumor when it was removed. It has been in alcohol, but the tumor was very heavy immediately after it was removed.

Dr. Lemoine.—What is the condition of the patient?

Dr Lutz.—She is well.

Dr. Gregory.—The diagnosis in his case was of an intra mural fibroid, but the history is that there was no hemorrhage. It strikes me that those two things do not correspond, the diagnosis and the absence of any extraordinary hemorrhage. I merely raise that point in order to hear whether any member present has had any experience with cases of that kind.

Dr. Engelmann.—Do you mean that hemorrhage always occurs in intra-mural fibroids?

Dr. Gregory.—It has always occurred to me that there would be hemorrhage in such cases. There is necessarily in intra mural fibroids an increase in the vascularity of the uterus; the depth of the uterus is increased.

Dr. Engelmann.—That is the generally accepted fact, but strange to say, it has happened so frequently in our clinical cases that there has been no hemorrhage in those cases of fibroids. I suppose we can not always say whether they were intra-mural or subperitoneal, but certainly in quite a number of cases of intra-mural fibroids, there was no hemorrhage, and in our clinical

cases as well as in private practice I may say it strangely happens that hemorrhage has been uniformly absent that we have looked upon increased menstrual flow as an indication of ovarian tumor rather than uterine, so much so, that I have been induced to caution the students in regard to that and in regard to the statements of the textbooks; and I have told them that we should rather look upon the presence of hemorrhage as indicative of uterine fibroid, and the irregularity and increase of the menstrual flow of ovarian trouble.

Dr. Pewitt.—I would like to ask if it is not an accepted fact, and so stated by the authorities, that intra mural fibroids do not produce bleeding, while the submucous tumors always do. That is my understanding of the matter; that it is only the submucous tumors that lead to profuse hemorrhages by reason of the fact that they necessarily give rise to great congestion of the mucous membrane whereas the intra-mural do not.

Dr. Lemoine.—That is the distinction that Sutton makes in his paper read before the Am. Med. Asso'n.

Dr. Gregory.—I find that my question was a very pertinent one. It has drawn out expressions of opinion which cannot but be interesting. But my observation has been the reverse, and I will say that I can not understand how we can have an increased depth of the uterus without an increased size of the uterus; that is the view I take of it. The very fact that we use a sound in these cases for the purpose of diagnosis and that when we find that the uterus has increased depth we are ready to say it is an intra-mural fibroid or a submucous fibroid would indicate to me that there will most likely be hemorrhage. Of course the uterus follows the growth of the tumor; and in accordance with this growth and in accordance with the growth of its muscular structures there is an increase of the connective tissue, and how can this go on without an increase of its vascular tissue. Does not that undergo a corresponding increase? So that the very fact that we put a sound into the uterus in these cases and find increased depth implies increased growth of the uterus; and I do not see how there can be increased growth without a corresponding augmentation of its several factors.

Dr. Gehrung.—I find that the condition of hemorrhage in cases of tumors is generally based on some irregularity in the cavity of the uterus—some impingement of the uterus on the regular shape and size of the cavity, hence the uterine cavity or the uterine mucous membrane is not coaptable. So long as we can coapt the walls there is little tendency to hemorrhage. Even if the uterine cavity is elongated, that would not of necessity produce hemorrhage, but if the growth or tumor is such that it deforms the cavity of the uterus, and the walls are not readily coapted, then hemorrhage takes place very easily. It is well known that there are many intra-mural fibroids which change the uterine cavity very little, whilst others change it considerable, and it seems to me that this is the cause, in addition to the greater efflux of blood to the organ—of the hemorrhage which sometimes takes place.

Dr. Boisliniere.—I can understand that an intra-mural fibroid will not bleed, but if it has a tendency to become submucous, then the bleeding begins. There may be two stages, when it is purely intra-mural and there will be no hemorrhage, and when it encroaches upon the mucous membrane, when there will be hemorrhage.

Dr. Gregory.—My experience has always been that where there is a growth of the wall or lining membrane of the uterus, there is always increased measurement of the uterus and with its increased measurement there is a corresponding increase in the size of the blood vessels tributary to that organ and if these vessels furnish blood at all, they must furnish an increased flow when the vessels are increased. No one questions the fact that submucous fibroid bleeds; that is accepted by all, but how does it bleed? Why does it bleed? Because the uterus increases with the growth within it just as it increases when pregnancy happens; they grow together, and the time comes when this enlarged uterus delivers the submucous fibroid into the vagina just precisely as the same change takes place in the uterus during pregnancy; the uterus acts just as if it had a fetus in its cavity. So if you have hemorrhage in submucous fibroid it is because the vessels are increased in size with the uterus. If an intra-mural fibroid increases the size of the uterus, the same result must occur it seems to me. And it occurs to me that the statement of Dr. Engelmann is contrary to the accepted teaching of the text-books.

Dr. Engelmann.—For that reason I think it is very important that the experiences of the members should be recorded. As I have stated, in my experience hemorrhage has not occurred and above all in the larger growths; in very small growths it is more likely to occur. But in large growths the absence of hemorrhage has signalized my cases. The cases which were marked by profuse bleeding have been exceedingly rare. I recall only two such cases of larger growths that there was marked hemorrhage or even a free menstrual flow. I remember one enormous growth—a uterine fibroid which more than filled a foot tub, in which the patient had a very scanty flow of blood. I think Dr. Ameiss will bear out what I say.

Dr. Dorsett.—The indications, generally, for operation in these tumors, is hemorrhage—to stop the hemorrhage, but Dr. Engelmann says there is usually less bleeding from a larger fibroid than from a smaller how was it when the large fibroid was small? It seems to me, if this is true, we ought rather to take it as a contra-indication for operating, on the theory that the hemorrhage will cease as the tumor increases in size. My experience does not agree with the doctor's at all so far as these cases are concerned. I remember one case very well, I watched it for nine years—a fibroid tumor which grew, and I had her on the table twice, to operate, but she was always afraid of the operation. On one occasion the hemorrhage became so alarming she begged for the operation. The reason why we felt compelled

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to operate was because of the large quantities of blood that she lost; she was almost exsanguinated.

In this case a supra-vaginal hysterectomy was performed. I have observed other cases in which hemorrhage was a prominent feature in large myomatous tumors. I rather think that the location is probably a more important factor than the size of the tumor; at least that has been my experience. The nearer they are situated to the uterine cavity the greater the probability of hemorrhage.

Dr. Prewitt.—Another point which I think should be elicited is that the doctor says if this had been an intra-mural tumor the operation should have been a oophorectomy rather than an extirpation of the uterus.

Dr. Lutz —I said I should have been rather inclined to have done that.

Dr. Prewitt.—Does not that depend to a certain extent upon the character of the tumor; if it is a rapidly growing tumor an edematous myoma, would it not be necessary to remove the uterus as well without stopping to consider whether the removal of the ovaries would have stopped the growth. I think experience teaches that in these rapidly growing edematous tumors the removal of the ovaries has little effect upon the growth. In this case the growth was seemingly slow, but had it been an intra-mural growth, a rapid growth, would not it have been advisable to have done an hysterectomy. Would a simple oophorectomy have checked the growth of the tumor? I think the experience shows that it does not check the growth of edematous myomas. A slow-growing tumor may attain quite a large size and give trouble only from its size and cause discomfort in that way, but these rapidly-growing tumors often prove fatal.

Dr. Boisliniere.—Are they malignant?

Dr. Prewitt.—That is a question whether they are not semi-malignant.

Dr. Papin.—I must say that my experience is like that of Dr. Gregory that hemorrhage increases with the increased growth of the tumor until it escapes externally from the womb, and then it only becomes a mechanical impediment pressing upon the pelvic organs, necessitating very frequently an operation to relieve this pressure. Submucous fibroid tumors necessarily bleed more than those which are still intra-mural, but little by little that hemorrhage must increase with the increase of the tumor, for with the increased depth of the uterus the blood-vessels increase. At first we see that at the menstrual epoch, the woman who has been in the habit of menstruating two or three days has a continuous hemorrhage for eight or ten days, sometimes with an interval of a few days or hours only between one period and another. I have now on hand three such patients, whom I am watching very closely. They are not fit subjects for operation because they are approaching the menopause and are otherwise in ill health. One in particular, a negro woman, whom I have watched for the last six months with the hope that I could build her up sufficiently to have some hope of removing this tumor and saving her life. Now in regard to the experience of Dr. Engelmann, the only way I can explain that is by supposing that in those cases the tumors had become extra-uterine with sessile base and so large that the surface of the tumor is excessively difficult to distinguish between the fundus of the womb and the tumor. I remember a patient whom Dr. Gregory and Dr. Carson operated on in which the whole fundus of the womb was involved in this tumor and it was difficult to find portions of the womb; she finally died from exhaustion. But it was a very interesting case inasmuch as she rarely had as much as twenty four hours without this continuous flow and yet the tumor involved the whole fundus of the womb and was not a submucous tumor but really a portion, part and parcel of the walls of the womb itself. I say the tendency of such tumors is to make an exit in some direction, and become pedunculated. They are benign except in so far as the pressure upon the surrounding organs.

Dr. Ameiss.—It certainly seems queer that hemorrhage, the symptom considered almost pathognomonic by the authorities, was absent in most of the cases of fibroids seen at the Post-Graduate School, and I would say that amongst over forty cases seen at this institution since 1890 not more than seven or eight could be considered under the hemorrhagic type.

On March 20, 1890, I reported a brief synopsis of thirty-one cases of these tumors with the following remarks as to hemorrhage: "Three of the largest fibroids, growing rapidly, and in young woman—at the twenty-fifth, thirty-third and thirty-eighth years of ago—had complete cessation of menses; seven had scant and irregular menstruation, their periods lasting from one hour to one, two or three days; twelve discharged about the normal quantity of blood at the menstrual epoch; seven had excessive menstruation, of seven to eight days' duration; one was bleeding half of each month; and one almost constantly.

Dr. Papin.—How many were operated on?

Dr. Ameiss.—But very few. Excepting the cases of pedunculated fibro-polypi removed from the uterine cavity, but 3, possibly 4, were operated, I mean laparotomized.

The distinctive differential diagnosis of the three varieties, submucous, intra-mural and subserous is a very difficult matter except in very rare cases, for frequently they merge into each other, so that we may have a tumor involving the uterine wall and bulging into the uterine cavity, intra-mural and submucous; or the type where the neoplasm protrudes into the abdominal cavity —the subserous still located in the uterine wall proper; and that variety combining all three types of our classification when the growth bulges both ways into the abdominal and uterine cavities. This type might be called fibroidal uterus. Of course at one stage the neoplasm naturally must have been interstitial, but by far the greater number of all these cases seen, bulge towards the peritoneal cavity and may be considered of the subperitoneal variety.

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Dr. Gregory.—I agree fully with my friend Dr. Lutz in regard to the plan which he suggests and intended to carry out in this particular case for the removal of the ovaries; it would certainly diminish the quantity of blood going to the uterus, and it would certainly influence the monthly increased flow of blood in the uterus; and I can but believe that it would favor the reduction of the tumor and may be the final annulment of the tumor. I can not agree with my friend Dr. Prewitt as to his experience. I have learned one thing, however: that you can have enlarged uterus without hemorrhage; and another is that it is the rule that these fibroids do not diminish when you remove the ovaries I believe it has been a generally accepted truth that if you remove the ovaries you certainly arrest the progress of these tumors, and so generally is it accepted that we have it recommended by good conservative English authorities. I do not go much beyond that. I know they are considered too conservative for to day, perhaps, but they represent the best surgery from my point of view. But I think the Germans recognize the fact that the English surgeons are the best—better than any other nation in the world, and the English teaching is that these fibroids are placed relatively in abeyance by the operation referred to by Dr. Lutz. If you diminish the quantity of arterial blood entering the organ, it seems to me these edematous cases may be ameliorated. But there is reason to believe that from time to time, many of these fatal cases of fibroids are really inflamed fibroids, and the wonder is that these inflamed fibroids are not more frequent than they are—the proximity of the tumor to the intestinal wall and the passing over this canal of these agencies of inflammation, it is a wonder that these tumors are not subjected to inflammatory action; but there is no question about the infection from time to time; and there is reason to believe that in many of these cases of edematous fibroids there is an inflammatory complication.

Dr. Engelmann.—I wish to say one word. I have seen violent hemorrhages only in three cases, in two it was so violent as to endanger life. I have under observation now a patient who for some ten years has been suffering with terrible hemorrhages; for ten or fiteen years she suffered with these hemorrhages, and three or four years after the menopouse they ceased and she has no more hemorrhages.

Dr. Prewitt.—I would like to hear some of the members express an opinion as to whether there is any difference between an ordinary fibroid and an edematous fibroid.

Dr. Lutz.—There is no question about this fact that a fibroid tumor like many other tumors, may undergo degenerative changes and inflammatory changes. We may have a fibroid tumor becoming edematous so that it seems that the structures of the fibroid has undergone cystic change or that other nutritive changes in the new growth itself have taken place. In such a case as that I do not think I would hesitate to remove the uterus, performing hysterectomy. But if I had a case of fibroid before me I could almost certainly tell, taking its clinical history into consideration and viewing the specimen macroscopically if I had such a fibroid—whether or not it had undergone these degenerative charges and if I had such a fibroid as I have described here I question whether I would be justified in doing that formidable operation of hysterectomy. On the other hand we know from experience that fibroid tumors that have undergone no degenerative changes that are simple fibroids do not present the most alarming symptoms namely, hemorrhage ofter the menopause. It is established that when the menopause comes a tumor either ceases to grow or else diminishes. If the tumor is a simple fibroid, the removal of the ovaries and tubes removes the source of nutrition and of course Dr. Prewitt does not disagree with me when I say that in those cases the removal of the adnexa would be preferable to the operation of hysterectomy. Then as to the question first asked by Dr. Gregory and which brought up all these other points: the difficulty encountered in this case in making a diagnosis or the inability to sound the uterine cavity. I could not get a probe into the uterus; the cervical canal or the opening into the vagina to the cervical canal was represented by a depression in the left anterior vaginal roof. The tumor was so large and had grown in such a manner as to turn the uterus to the right and backwards. So I was unable to get a probe into the cavity of the uterus and hence I was robbed of one of the valuable symptoms in connection with uterine fibroids; that of change or alteration of the length of the uterine canal. If I had been able to measure the depth of the uterus with the sound, I believe I would not have made a diagnosis of intra mural tumor, but I could not do that. My own observations have been comparatively limited, and I have not had a case which would lead me to make the diagnosis in this instance of subperitoneal fibroid and I believed it was an intra-mural fibroid of the kind which does not impinge upon the uterine cavity as much as it does upon the serous cavity. In other words, I had an idea that the uterine hemorrhage connected with fibroids was due partly to the mechanical presence in the vicinity of the mucous membrane of this tumor, not only because the blood supply to the uterus has been greatly increased by the presence of the tumor, but because of the mechanical proximity of the tumor to the mucous membrane. In other words I believe that mechanical element of the presence of the tumor in close proximity to the mucous membrane, is a factor in producing the hemorrhage. I repeat, had I been able to get the sound into the uterine cavity, I would in all likelihood have made perhaps a more guarded diagnosis. Then in regard to the removal of the uterine adnexa: I have in my mind a case that was the most appalling I have ever seen in connection with hemorrhage from the uterus. The woman was blanched and before I did anything else I removed the pillows and elevated the foot of the bed; I introduced my hand into the vagina, and my fingers could be slipped into the cavity of the uterus. I will not venture to say how much iodoform

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gauze was packed into the uterus to stop the hemorrhage, but it took an immense quantity, and the bleeding was stopped. A day or two afterwards I made a very careful examination and found that she had an immense fibroid, and she bled once or twice during a period of several months and the woman herself was anxious that I should remove that tumor; she was forty years old. I kept her under observation; her bleeding stopped entirely; she never menstruated after six months from the time I had seen her, and she died two years after I first saw her and I secured the specimen. It satisfied me very thoroughly, more so than anything I had read, of the influence of the menopause in the arrest of the growth of uterine fibroids.

DR. GREGORY.—What was the depth of the womb?

DR. LUTZ.—It was eight inches if it was one.

DR. PREWITT.—Removal of the adnexa does not always stop the hemorrhage.

DR. LUTZ.—No but it comes near doing it. It seems to me that if the blood supply is cut off from a tumor that has not undergone degenerative changes, in all likelihood it will prevent the uterus from undergoing degenerative changes, and from our knowledge of physiology, it should stop the hemorrhage from the uterine cavity.

DR. LEMOINE.—Does not the hemorrhage frequently depend upon the position of the uterus, as to whether it is in the cavity of the pelvis or has risen above it? I have a case now under my charge in which the hemorrhage was very profuse for at least two years during the presence of the tumor in the cavity of the pelvis, which, since it has risen above the brim of the pelvis the hemorrhage has ceased.

DR. LUTZ.—How old is the woman?

DR. LEMOINE.—She is just entering her fortieth year.

DR. LUTZ.—She is approaching the menopause?

DR. LEMOINE.—She has her menstruation regularly; it is as regular as it ever was and she has not a single unto ward symptom; she is as healthy a woman as you ever saw; the tumor is there yet and it is an intra mural tumor; it started as an intra-mural tumor, it is now decidedly sub-mucous. The last time I sounded the uterus its depth was 4½ or 5 inches.

DR. MCPHEETERS.—My experience is very limited, but as far as it goes it convinces me that these small uterine tumors are accompanied with very considerable hemorrhage generally. I recollect I removed five years ago a small pedunculated tumor from a little unmarried lady 40 years of age, and the object of removing it was the profuse menstruation; the tumor was only about as large as a small pear, pedunculated, and in its removal she had no hemorrhage and her menses have been regular. I have seen other cases of small tumors accompanied by very large hemorrhages, but my experience does not extend to those large tumors anything like the size that Dr. Engelmann mentions, but I know these small tumors are very often accompanied by profuse hemorrhages.

ABSTRACTS

MEDICINE.

A New Method of Administering Creosote.—At the present time most clinicians are in accord in believing that creosote is a most valuable remedy for pulmonary tuberculosis. That it is a specific probably no one claims, but that of all remedies it gives the fewest disappointments we will admit. The literature is extensive; a bibliography to 1893, by no means complete, records more than two hundred authors of a far larger number of papers. From the time of its discovery and use by Reichenbach, in 1833, until it passed out of vogue in 1853, there was ample evidence of its value if we may so infer from the papers of Grandjean, Breschet, and Bertholet, Mignet and Wolf, 1834; Cless and Cortoni, 1835; Petrequin, Martin Solon, and Kœbler, 1836; Rampold, 1837; Inmann, 1851 Verbeck and Debout, 1852. That it fell into disuse was believed to be from the presence of impurities and the practice of administering too small a dose. Since Bouchard and Gimbert reintroduced the drug, in 1877, the principal question has been how to introduce the drug into the organism in sufficiently large quantities, for it is a well-known fact that a daily dosage of three drachms, and usually far less, when administered by the stomach, gives rise to untoward, even poisonous, symptoms. Bourget proved that on those parts where creosote capsules were dissolved, local circumscribed inflammations were produced. Of the earlier literature after its revival, the most important papers are by Sommerbrodt, Fraentzel, Reuss, Pick, Guttmann, Horner, Lublinsky, and Robinson, in 1878. My own use of this remedy is coextensive with the entire time of my practice of medicine. That the administration by way of the stomach has been found insufficient is shown by the various substitutes proposed: Rectum, Bourget, 1889; subcutaneously, Du Castel, 1882; frictions, Bourget, 1889; by way of the respiratory passages—inhalations—Labbee, 1879; laryngeal applications, Cadier, 1878; intra tracheal injections, Beehag, 1888; intra pulmonary injections, Lepine and Truc, 1885. By subcutaneous injection excellent results have been obtained, but this method presents many inconveniences; it requires much time, it necessitates a special and expensive apparatus, it is hardly to be employed except in hospitals, so that in spite of the excellent paper of Gimbert, in 1891, this method has attracted but little attention. In 1893 Audeoud presented a carefully written monograph upon the use of the rectum as the channel for the administration of the drug. This method also yielded good results, but its inconveniences are very considerable, and it is doubtful if it will be a practicable method for the physician. It has been sought to overcome the defects

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of creosote by the substitution of various preparations of the remedy. Such modifications have been made by Valzer (guaiacol benzoate), by Haas (cinnamic ether of guaiacol, which has been called styracol), by Giaosa (carbonic ether of guaiacol), by Holscher and Seifert (carbonate of guaiacol),and finally by various physicians, guaiacol. Good beechwood creosote contains from sixty to ninety per cent of guaiacol. My own experience has been that guaiacol, in dose proportionate to its percentage in creosote, is by no means efficient in pulmonary tuberculosis; even in equal dose I have not found it to be of the same value as the crude drug. So that the general opinion seems to be that it is the beechwood creosote, the complex body, which possesses the greatest value. We believe, as does Sommerbrodt, that the more of the drug the patient can bear without injury, the more benefit will he derive, and the sooner will the tubercular process be controlled. Hitherto I have been most successful in the use of it in the form of enteric pills, *i. e*, pills made up with paraffin or ones coated with keratin. In some cases I have used in addition the mixture of creosote, alcohol, and chloroform (Robinson) for inhalation. Even with enteric pills, gastric irritation, backache, and malaise are not unknown. The use of creosote in soluble capsules with cod-liver oil, as was so strongly recommended by Sommerbrodt, I have long since abandoned on account of the nauseous eructations of the oil. In spite of all its disadvantages I have adhered to the use of creosote, for the five thousand cases of Sommerbrodt (1887) to which he has recently added his later experience, and the seventeen hundred of Von Brunn (1888) are too strong evidence to be lightly set aside. In spite of the many cases where toxic symptoms, even alarming ones, have arisen, and the recently reported case of Freudenthal is an example, I believe we are justified in continuing to use this remedy although we do not attribute to it any anti-bacillary properties. Notwithstanding that it is probably useless in acute tuberculosis, in tubercular pleuritis and enteritis, and that it is cortra-indicated in acute and chronic nephritis, and in certain cases of idiosyncrasy, there is an ample field for its employment. Several years ago the the carbonate of creosote, that is, beechwood creosote (ninety-two per cent) in chemical combination with carbonic acid (eight per cent) was discovered in the scientific laboratory of Dr. F. von Heyden's successors at Radebeul, near Dresden, who have named it creosotal. As you see from the specimen, it is a clear, pale, almost colorless liquid of sirupy consistency, becoming thinner by heat. It is insoluble in water, but soluble in alcohol or in four or five parts of cod liver or olive oil. It has a slight odor of creosote, and an oily, slightly tarry taste, which is in marked contrast to the burning taste of creosote. It can be administered clear, or, as it is said—but of this I have had no personal experience—by hypodermic injection, the precautions being taken to use a large needle,and to reduce the consistency of the liquid by heat. It can also be administerted in the form of an emulsion, one half or two drachms being beaten up with the yolk of an egg, diluted with water, and flavored with any aromatic syrup. During the past three months I have found the administration by means of gelatine capsules, either hard or soft, from ten to twenty minims in each one, to be eminently satisfactory. There is no doubt about the elimination of creosote carbonate by the respiratory tract—the breath gives ample evidence. It is also excreted by the urine, although in what proportion it is at present impossible to state, for the estimations have not been made. Two drachms per day, even on the first day, many causes the urine to become dark green. So far as I know, this is the only symptom to which it gives rise, and it is simply an indication to diminish the dose to one half of its former size. According to my observations it does not produce malaise, nor irritation of stomach or of intestines. It is stated that it does not produce any diarrhea, and also that if a diarrhea exist it is without effect upon it. The first part of this statement I believe to be correct, the latter I have not had an opportunity to verify. We have no doubt as to the fact that it is non poisonous; the important question is: Is it as efficacious as creosote?Chaumier used it in 8 cases with equal success so far as the lesions were concerned. My own observations confirm his. Since the creosote carbonate contains ninety per cent of creosote, the dose may be considered to be practically identical. Fifteen to twenty drops per day is probably sufficient for children; adults will bear one to two drachms, even four drachms per day in divided doses may not be excessive.

The Pharmacopeia is singularly poor in vegetable alteratives, and sarsaparilla, the best known and most frequently prescribed, is most uncertain in action and frequenly very disappointing in results. Any well-tested addition, therefore, to our materia medica in this class of remedies, will, we are sure, be gladly welcomed by practitioners. Some time ago we received from Messrs. Parke, Davis & Co., of Detroit, U. S. A., a sample of a syrupy compound containing the essential elements of Trifolium pratense (red clover), Stillingia sylvatica (yaw root), Lappa officinalis (burdock), Phytolacca decandra (poke root), Berberis aquifolium (mountain grape), Cascara amarga (Honduras bark), and Xanthoxylum Americanum (prickly ash). All these are powerful alteratives, and have been in common use by American physicians in cases of a scrofulous or syphilitic nature. The proportions of each drug contained in the syrup are given with the directions, and to increase its operative action eight grains of iodide of potassium have been added to each ounce. We have used it with decidedly satisfactory results in some cases of chronic skin diseases of suspected specific origin. Being very palatable, children take it readily, and we have found it exceedingly useful, when combined with small doses of perchloride of mercury, in treating congenital syphilis.—*Hospital Gazette.*

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NOTES AND ITEMS

Liability of the Husband for Medical Attendance upon the Wife. — President Judge Hanna, in delivering the opinion of the Orphans' Court of Philadelphia, in the case of Waesch's Estate, says: The liability of the husband for medical attendance upon his wife, even although she has a separate estate, is too well settled to admit of argument. He is primarily liable, and her estate is liable, only in a case he be insolvent. If any balance then remains for distribution, the expenses he should have paid will be deducted from his distributive share.

A New Clinical Society.—The staff of the Brooklyn Central Dispensary has organized a clinical society, for the purpose of holding a monthly interchange of views on medical and surgical subjects. Reports of the more important cases occurring at the dispensary clinics will be presented and preserved. The name of the organization is the Central Clinical Society of Brooklyn. Among the members are Dr. Barber, Dr. Lucas, Dr. Yorke, Dr. Anderson, Dr. Cochrane, Dr. Jelliffe, and Dr. Wood. The meeting will de held on the fourth Thursday of each month,

The First Chinese Medical College.—The first medical college worthy the name established by the Chinese Government was recently opened with formal ceremony at Tientsin (*Med. News*). The project owes its origin to the intelligence and energy of the Viceroy of China and his wife, who constructed the necessary buildings and placed the direction in the hands of a distinguished graduate of the University of Dublin, selected by the late Sir Andrew Clark. The establishment of the college is attributed to the efforts of the Viceroy's medical attendant, Dr. Irwin, and to the influence of a Canadian woman, Dr. King. Some twenty well-educated English speaking Chinemen have enrolled themselves as students, and the work of instruction has already been begun.

Chlorides in Cancerous Diseases. — Dr. Schopp has been investigating the excretion of chlorides by carcinomatous patients (*Med. Rec.*). The urine was examined in each case on several successive days. The conclusions come to are as follows: The relation between intake and excretion of chlorides is not constant for all cancers. The remarkably large decrease of excretion in some cases of cancer is chiefly dependent upon the extent of ulceration, and is caused by the large amount of chlorides contained in the discharges. The decrease is also affected by the rate of growth of the cancer, and is inversely proportional to the loss of flesh. There are no grounds for assuming a resemblance between the decrease of chlorides in cancer and that which occurs in febrile attacks.

The Relation of Opium-Eating to Life Insurance.—Very few opium-eaters have any thought of insuring their lives—they do not concern themselves in regard to the future—and very few have means with which to pay premiums on policies after their supply of the narcotic has been paid for (New York *Med. Jonrn.*) The *Independent* thus speaks of the opium investigntion now in progress in India: "It has been stated that among the so called evidence used by the government partly to bolster up the pro opium side, the Oriental Life Assurance Company, which does almost the entire native business of India, testifies that no extra premium is charged to users of the drug, and state that during twenty years not a single claim has been paid for death which could have been attributed to use of opium. Granting that the statement is correct, we would like to know to what extent life insurance policies are taken out in opium dens in India. It is doubtless true that similar statements might be made with regard to policies paid to habitues of the dives of New York or any American city. It does not therefore follow that opium has no effect to shorten the life." It is a peculiarity of the testimony on the opium question that the witnesses who hold office in India are nearly all pro-opium, while the non-official class are almost unanimous in the other direction. This applies to medical witnesses as well as to others.

Salophen as an Anti-Rheumatic.—The reports that have thus far appeared on the therapeutics of Salophen coincide in ascribing to this remedy admirable anti-rheumatic and anti-neuralgic properties. Dr. Koster (*Therapeutische Monatshefte*, January, 1894) supplements this favorable testimony with the results of his own experience with Salophen in cases of acute and chronic articular rheumatism and neuralgia. In thirty cases of acute articular rheumatism the pains and swelling disappeared rapidly, sometimes after a few 1.0 gm. doses, and usually after four days in the severe cases. After-effects were observed in but a few cases of muscular rheumatism. Although of little value in chronic rheumatism the results were excellent and sometimes astonishingly good, in a considerable series of cases of neuralgic affections, such as headaches, hemicrania, trigeminal neuralgia. A woman who had suffered for three months from violent neuralgia in the left arm which could not be relieved by any of the customary anti neuralgias, was cured within a few days, and in a case of severe supra-orbital neuralgia the attacks could always be relieved by administration of a few gramme doses. Koster concludes that Salophen is a powerful anti-rheumatic and anti-neuralgic and a valuable addition to the materia medica.

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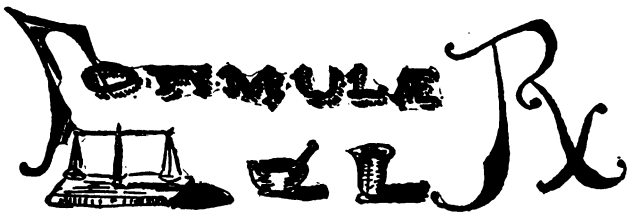

Leucocythemia.

℞ Acid. arsenicos., - - - - - - - - gr.j.
Ferri reduct,
Quiniæ sulphat., - - - - - - - aa ℥j.
Ext. gentian., - - - - - - - - q. s.
M. F. pilul. No. 40.
Sig. Two pills three times a day.

Locomotor Ataxia.

℞ Tinct. strychni, - - - - - - - - ℥j.
Syrup. Hypophosph. Comp. (McArthur), - fl℥vj.
M.
Sig. Teaspoonful in water three times a day.

Morning Sickness.

℞ Cerii oxalate., - - - - - - - - gr.xxiv.
Bismuth. subnitric., - - - - - - - ℥j.
Pepsin, - - - - - - - - - gr.xij.
M. F. pulv. Divide in dos. No. 12.
Sig. One powder three times a day before meals.

Neuralgia.

℞ Phenacetine, - - - - - - - - - ℥ss.
Codein. muriat., - - - - - - - - gr.ij
M. F. pulv. Divide in dos. No. 10.
Sig. One powder three times a day.

℞ Neurosine, - - - - - - - - one bottle.
Sig. Tablespoonful until relieved.

Pneumonia.

℞ Caffacemon, - - - - - - - - gr.xxx.
Sacch. alb., - - - - - - - - - ℈j.
M. F. pulv. Divide in dos. No. 10.
Sig. Three to four powders daily.

℞ Labordine, - - - - - - - - - ℥j.
Sacch. alb, - - - - - - - - - - ℈j.
M. F. pulv. Divide in dos. No. 11.
Sig. One powder every four hours.

Sick Headache.

℞ Phenacetine, - - - - - - - - gr.xx.
Sacch. alb., - - - - - - - - - ℈j.
M. F. pulv. Divide in dos. No. 5.
Sig. One powder every two or three hours.

℞ Cooper's Antipyretic Tablets, - - - No. xx.
Sig. One or two tablets every two hours tili pain ceases.

Acne.

℞ Sennine, - - - - - - - - - - ℥j.
Zinc. oxydat.,
Bismuth. subnitr., - - - - - - aa ℥ss.
Oil wintergreen, - - - - - - gtts.v.
Lanolin,
Vaselin, - - - - - - - - aa ℥ss.
M. F. ungt.
Sig. Apply externally.

Acne Rosacea.

℞ Lac. sulphur., - - - - - - - - - ℥j.
Gum. arabic., - - - - - - - - - ℥ss.
Aq. rosæ, - - - - - - - - - - fl℥iv.
Tinct. benzoes, - - - - - - - - - fl℥ij.
Glycerin, - - - - - - - - - - fl℥j.
M.
Sig. Apply locally.

Bruises.

℞ Tinct. belladonnæ,
Tinct. aconiti,
Tinct. opii, - - - - - - - - aa fl℥ss.
Chloroform, - - - - - - - - - fl℥j.
Spirit. camphorat., - - - - - - - - fl℥ij.
Menthol, - - - - - - - - - - ℥j.
M.
Sig. Use locally.

RAILROAD NEWS

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E. B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

VII—THE USES AND RELATIVE VALUES OF ANTISEPTICS (CONT.)

GALLIC ACID.—Abbot determined that a 2.37% solution destroyed the bacteria of broken-down beef tea but failed to kill anthrax spores in two hours. A solution of 1:142 killed various micrococci in two hours.

GLYCERIN.—$C_3H_5(OH)_3$. Glycerin was used as an antiseptic by Demarquay as early as 1855; he thought it the very best antiseptic substance, in fact almost a panacea; but it has been tried and found wanting. Roux and others have shown that the addition of five per cent of glycerin to culture media was *favorable* to their subsequent growth. Koch found that it had no effect upon the spores of either symptomatic anthrax nor indeed upon those of anthrax itself. Miquel has determined that its presence in the proportion of 1:4 will prevent putrefactive decomposition in bouillon.

GOLD CHLORID.—$AuCl_3$ Also termed the tri chlorid, or *Auric Chlorid*. Miquel has determined that this substance is antiseptic in the proportion of 1:4000. A solution of 1:1000 will destroy the germs of cholera, anthrax or diphtheria.

GUAIACOL.—This substance, also called *Methyl pyrocatechin*, is obtained from beech-wood tar. Its formula is said to be $C_6H_4OHOCH_3$ and it is claimed to contain 60–90% of creosote. It occurs as a liquid having a pleasant odor and a specific gravity only slightly greater than that of water. It has also been produced synthetically as a solid product which is colorless and crystallizes readily in prismatic form; it has a sweetish and marked astringent taste and is said not to attack mucous membranes.

Guaiacol is soluble in water in the proportion 1:85 and in petroleum benzin in that of 1:8. It seems to have antipyretic, as well as antiseptic, properties—even when applied locally. Its chief use has been in tuberculous affections, and indeed wherever creosote may be exhibited with profit. It is said to prove an advantageous substitute for creosote in the early stages of tuberculosis. It is best administered after meals either in alcoholic solution, or mixed with cod-liver oil or else in capsules. The usual dose is from five to ten minims; continued use establishes a tolerance, as in the case of creosote, and the dose may be gradually increased if its full effect is to be exercised.

Various salts of the substance, such as the iodid, carbonate, salicylate and others, have been prepared and put upon the market as succedanea for guaiacol itself; the indications for their use are the same as those for guaiacol, the only virtue claimed for any of them over guaiacol is that they are supposed to possess the disadvantages, such as irritation, etc., in a more modified degree than the substance itself.

HELENIN.—This substance is derived from elecampane root. It exists in the form of white acicular crystals with the chemical formula C_6H_8O These crystals are only slightly soluble in water but are readily so in hot alcohol, ether and the oils. It is claimed to be an effective antiseptic where it has been used in Europe. In Spain it is highly favored as a surgical dressing; indeed Ferran claims active germicidal properties for it, claiming that it is more destructive in its action upon the cholera bacillus than any other agent. It has been used with favorable results in pertussis, ozaena, diarrhea, leucorrhea and other disorders; but its excessive cost is an effective barrier to its general use. It has been administered in doses of 1–6 to 1–3 of a grain in the course of twenty-four hours.

HYDROCHINONE.—Also termed *Hydro quinone*, *Para-di-oxy benzene* and *Quinol*, It is obtained from Arbutin (which see) by the action of sulphuric acid, or else by the oxidation of anilin by chromic acid and has the chemical formula $C_6H_6O_2$.

It occurs in long, di-morphous colorless crystals which are freely soluble in hot water, alcohol or ether; soluble in cold water in the proportion 1:20. The sub-

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stance has been recommended as an internal antiseptic and has apparently produced good results. It is usually administered in doses of from 1–2 to 5 grains.

Hydrogen di oxid (Hydrogen Peroxid). — This substance is sometimes described as "an aqueous solution of hydroxyl," thus H_2O_2 or $(OH)_2$. The solution used in practical medicine is of about "ten volume" strength. It has been lauded as a general disinfectant and germicide. It has one great advantage in that it is non-toxic. It seems to possess a special predilection for pus, which it destroys; this property is made use of in some cases for the diagnostication of the presence of pus where it may be concealed in cavities—its presence causes a marked effervescence when the peroxid is introduced. Shimwell, however, says that it is not applicable to fresh wounds or fresh surfaces but to those that are septic in nature. It has lately been introduced into the U. S. Pharmacopeia of 1890.

Surgeon-General Sternberg says that unless chemists can furnish stronger and more stable solutions of the substance than they seem at present able to do, we are not likely to derive any practical benefit from its use as a disinfectant. Indeed its instability is marked and forms the chief objection, since one cannot rely upon all preparations unless assured of their freshness. The substance owes all of its virtues to the oxygen which it disengages when brought into contact with oxidizable matter. The action of oxygen and ozone are discussed under their proper headings, which see for further information.

Hydrofluoric Acid.—HF. This substance, which normally exists in a gaseous condition, has been suggested and used in the treatment of tuberculosis. The experiments of Chautard and Grancher with the substance show that its direct and prolonged action diminishes the virulence of the germ but fails to kill it. Hydrofluosilicic acid or its sodium salt (Sodic silico fluorid, Na_2SiF_6) have also been suggested and indeed were highly praised by Neudorfer, but, as Shimwell properly says, have now been discarded having no advantage over boracic acid. Hydrochloric acid the congener of hydrofluoric acid is equal to sulphuric acid in germicidal power.

Hydronaphthol.—This substance is derived from Beta-naphthol by the substitution of hydroxyl (OH) for an atom of hydrogen, hence the chemical formula would be $C_{10}H_6(OH)_2$. It is soluble in water in the proportion of 1:900–1000. The drug has recently been suggested as a prophylactic in the treatment of cholera or other infectious affection of the alimentary tract. In the proportion of 1:400 it is said to possess powerful germicidal and inhibitory power. Its internal use is resorted to in doses of eight to ten grains three or four times a day.

Indol.—Koch found that even an excess of this substance in water did not destroy anthrax spores, even in eighty days.

Iodin.—In 1853 Duroy pointed out the fact that iodin possessed preservative properties, having a direct action upon pus and organized ferments; also that it caused aqueous solutions to keep indefinitely and that its syrups do not ferment. These facts and many other similar ones he embodied in a memoir presented to the Academy of Medicine of Paris in the year 1853. Velpeau again called the attention of the medical profession to the virtues of iodin in the year 1859; he said that it had been in use at that time for thirty years or more. Modern researches have corroborated the germicidal properties of both iodin and bromin. In such strength iodin is considerably stronger than bromin but less strong than chlorin.

Iodin Tri-Chlorid.—ICl_3. Behring claims that this substance, as an antisptic, has all of the potency of free chlorin or iodin without their disadvantages. It is a yellowish-red powder with a peculiar and penetrating odor; it is soluble in water. Langenbuch found that it would restrain the development of bacteria, when added to nutrient gelatin, even when present in as small an amount as 1:1200, while 1:1000 would kill even spores in a short time. A solution with a strength of one per cent destroyed anthrax spores suspended in water almost instantly and a $^1/_{10}$ per cent solution effected the same result in a few minutes. Behring found that a one per cent solution would kill anthrax spores in blood serum in forty minutes.

Iodoform.—CHI_3. Sometimes termed *Tri-iodo methane.* This substance is too familiar to need description. The chief objection to it is its intolerable and almost imperishable odor. The experiments of Tilanus, Neisser, Buechner and others show that it is no germicide itself but has some antiseptic power; that is, it possesses inhibitory power. Neudoerfer says that it possesses toxic properties for some individuals, that "they lose their appetites, become morose, absent-minded, and if the drug be continued there result physical changes and death."

Recent investigations have demonstrated that under certain conditions the substance does possess some germicidal power—that is, the decomposition of the substance, accompanied by the liberation of free iodin gives it the antiseptic and germicidal properties which are peculiar to iodin. Sir Joseph Lister has recently called attention to the antiseptic properties of iodoform, claiming however, that the function of the iodoform was not to kill the germs but to destroy the products of their vital activity. This is certainly an extraordinary claim and a most valuable property, if experience can but demonstrate its truth.

Iodoform is chiefly of value in various tubercular affections and remains the favorite remedy in such diseases.

Squibb says: "Its extremely disagreeable penetrating and persistent odor is still against it and deodorizers continue to be recommended from every quarter. It should be constantly borne in mind that the characteristic odor of iodoform is inherent to it and we might just as rationally expect to remove the sweetening property of sugar and still expect to retain the usefulness of

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that necessary article as to remove the odor of iodoform and retain its identity. We can adopt all manner of expedients to mask this objectionable quality, but we may rest assured that the iodoform is still there as long as we hold its combining elements together, and as soon as we split these up we no longer have this useful agent."

Iodol—This substance, obtained by the action of an alcoholic solution of iodin upon pyrrol, and called *Tetra-iodo pyrrol*, has the chemical formula C_4I_4NH. It occurs in the form of a grayish-brown, odorless, tasteless powder; it is said to be yellowish and rather crystalline when pure. At elevated temperatures it decomposes, giving off vapors of iodin, It is soluble in alcohol and ether but almost entirely insoluble in water. It is claimed to be non-toxic and to possess the favorable qualities of iodoform in addition. Sternberg (1885) as a result of his investigations stated that it was entirely without germicidal power. Riedlin also found that it had no effect upon even the spirilla of cholera, which are among the least resistant of all germs.

Iodophenin.—Also termed *Iodo-phenacetin*. This substance is a combination of iodin and phenacetin and is supposed to contain 50 per cent of the former substance. It is a brownish powder, but when pure exists as a crystalline body with a characteristic iodin like odor and a burning taste. Like iodin it discolors the skin yellow. It is soluble in alcohol, glacial acetic acid and boiling hydrochloric acid. Most of the reports, with the exception of those from the Paris Charity Pospital, are against the drug. Seibel says that it gives off iodin in excess too readily and that it possesses no advantage over free iodin itself. This observation has been confirmed and corroborated by other investigators also.

Iodozone.—This is the name given by Robin to a solution of iodin in ozone. The solution has all of the appearance of a complete one and gives no reactions by means of which a different condition can be detected. This was first suggested by the well known value of sea-air whose virtues were supposed by some to be due to ozone and traces of iodin. Iodozone is recommended as a spray in tuberculosis pulmonalis and open wounds —rather Iodozone *was* recommended in such cases, for it appears now to have utterly gone out of existence as a pharmaceutical or remedial preparation.

Izal.—This is a trade name for an emulsion containing thirty per cent of a new oil which it is claimed is produced by a patent process used for the manufacture of a special variety of coke. Squibb says that: "It appears to belong to a series analogous to the terpenes, with characteristics between those of the paraffins and the benzins. No phenol proper can be detected in the emulsion." It has not gone beyond the land of its birth (England) as yet. It is claimed that it is a powerful antiseptic, that it does not injure the hands, that it has no objectionable smell, that it is non-toxic and in fact altogether valuable. This is based entirely upon the reports of a few enthusiasts, it is entirely too early to place any definite value, or lack of value, upon it as yet. Time will demonstrate its advantages, whatever they may be.

Lactic Acid.—$HC_3H_5O_3$. The second member of a group of monobasic, di-atomic acids. It is a colorless syrupy liquid of strongly acid properties, mixing with water and alcohol in all proportions; it occurs in many plant juices, either free or combined. It is also produced by the fermentation or "souring" of milk.

Kitasato found that a .4 per cent solution would destroy the typhoid bacillus in five hours while a 3. per cent would do the same in the case cholera spirilla in the same length of time.

Lanolin.—This substance is a fat extracted from sheep's wool and containing about thirty per cent of water—whence its name of *Adeps lanæ hydrosus*. It is a white odorless substance which does not affect litmus and is used as a base for many ointments or preparations used in the local treatment of diseases of the skin, etc. It is insoluble in water, partly soluble in alcohol and readily so in ether, acetone and benzene.

Gottstein found that various organisms ceased to grow after contact with pure lanolin from five to seven days; hence it appears to possess inhibitory powers. It is one of the best ointment bases known to pharmaceutical science.

Lead Chlorid.—$PbCl_2$. This substance is not in common or general use but Miquel has determined that it is antiseptic in the proportion of 1:500.

Lead Nitrate.—$Pb(NO_3)_2$. This substance is frequently credited with germicidal properties which it does not really possess. Miquel has determined that it is antiseptic in the proportion of 1:277.

Losophan.—*Tri-iodo-meta-cresol*. This substance is a new antiseptic produced by the action of iodin upon *m*-oxytoluic acid. It occurs in the form of colorless, needle-like crystals containing about eighty per cent of iodin. It decomposes readily in dilute solutions of alcohol, but not in solutions containing seventy-five per cent of alcohol. Its use is, as yet, restricted almost entirely to dermatology.

Lysol.—This substance is the saponified product of coal-tar; it is obtained from tar-oils by boiling with alkalies and fats and contains about fifty per cent of cresols. It occurs as a clear, brown, oily liquid slightly lighter than water and with an aromatic odor like that of creosote. It is soluble in alcohol, chloroform, water, glycerin, carbon di-sulphid and benzin. Experience has not justified the extraordinary claims which have been made for it. Its soapy nature renders instruments or objects immersed in solutions of the substance disagreeably and dangerously slippery.

Cadeac and Guinard, after elaborate experimentation with the substance, have concluded that while it is an undoubted microbicide it has no advantage over the antiseptics of established reputation; that it is only efficacious in solutions sufficiently strong to prove irritating or caustic and that its sphere of usefulness will not extend beyond the disinfection of stools, privies, ships, stables, etc., aiding thus in the prophylaxis, prevention

and arrest of epidemics. It is used by some locally in solutions of strengths of from three to five per cent.

Malic Acid —Has about the same germicidal value as citric acid.

Mercury.—The various soluble salts of this metal seem all to have more or less antiseptic activity although the fallacious belief in their unsurpassed *germicidal* powers has been entirely exploded by the results attained by recent investigators. The succinate, the phenylate, the salicylate, the thymol-acetate, the thymolate, the iodid, the cyanid and a host of others have their respective adherents. None of them however have attained the eminence of the so-called "bi chloride." Mercuric iodid however is but slightly inferior to this chlorid; it is moreover, more stable, less toxic and altogether more agreeable. According to Lister, until his recent declaration in favor of carbolic acid above all other germicides, the double cyanid of mercury and zinc more nearly accorded to the requisites of an ideal antiseptic. This substance is non-volatile, non-irritant, insoluble to the extent that wound secretion does not wash it out of the dressing; its great disadvantage, however, is its feeble germicidal power which is almost balanced though by its inhibitory power. (See Corrosive Sublimate).

Methylene Blue.—This substance is one of the anilin dyes, being called *Tetra-methyl-thionin*. The drug is usually found as a bluish powder composed of scaly crystals of a bronze-like tinge; it is somewhat soluble in water and more so in alcohol. It has been recommended especially as an antiperiodic, particularly where quinine has failed. It has also been used locally in diphtheria. (See Anilin Dyes).

Microcidin.—This name is applied to a mixture of beta-naphthol and sodic hydroxid—it is presumably termed sodic naphtholate. It is a white powder soluble in water in the proportion of 1:3. It is employed as an antiseptic both internally and externally. When used locally it is employed in the strength of from three to five parts to the thousand. It is but little heard of now, although Cozzolini of Naples thinks that it has given him excellent results in suppurations of the ear and in inflammatory conditions of the nose and throat.

Mono chlor phenol (see Chlor-phenol).

Morphia Hydrochlorate —This substance has feeble inhibitory powers. Miquel has decided that it is antiseptic in the proportion of 1:13.

Naphthalene.—Also termed *Naphthalin*, having a chemical formula of $C_{10}H_8$. It is a hydrocarbon obtained from coal-tar; it is also formed in the manufacture of ordinary illuminating gas. As usually found it occurs as a grayish white substance either in powder or brilliant, scaly crystals which have an odor of coal-tar and an aromatic bitter taste. It is soluble in alcohol ether, the fixed and volatile oils and in acetic acid, but insoluble in water. Is is also sold in molded blocks under the name of *Alabastrime* and *Camphylene* and used for preserving furs and flannels from moths and also in urinals for purposes of disinfection. It is claimed that the inhalation of the vapor of the substance ha given good results in the treatment of pertussis, etc.

Naphthol.—Also termed *Naphthyl alcohol* and *Iso-* o *Beta-naphthol*. It may be obtained by the action of sul phuric acid for some time upon naphthalene. Th chemical formula is $C_{10}H_7OH$. It occurs in brilliant colorless, shining, crystalline laminæ having an odo resembling that of phenol, with a slight burning tast It is readily soluble in alcohol, ether, chloroform, ben zene and the fatty oils; it is fairly soluble in hot wate but almost insoluble in cold water. It is used as a antiseptic in cutaneous diseases and affections of th respiratory tract, also as an intestinal antiseptic. Foot says that the substance exercises some germicidal powe even in the proportion of 1:2300 but concludes that saturated aqueous solution (1:1150) does not equal th action of one per cent solution of carbolic acid or o creolin.

It has been used internally in the dose of two to fif teen grains and externally in solutions or ointments o the strength of from 2 to 10 per cent.

There are a great number of derivatives of naphtho such as iodo-beta naphthol, benzo-naphthol, microcidin naphthol camphor, etc. It is undoubtedly an efficien antiseptic, as indeed are many of its derivatives, but, a Squibb says, "Naphthol and all its derivatives cannot be said to have superseded carbolic acid, although they no doubt will find a permanent place on the list of valuable agents."

Nitric Acid.—HNO_3 This substance is too well known to need description. Nitric, hydrochloric and sulphuric acids are approximately of the same germicidal strengths. (See sulphuric acid).

Nitrous Acid.—HNO_2. Nitrous acid represents the first degree of reduction or de-oxidation of nitric acid. Sternberg (1880) determined that the activity of dry vaccine virus was destroyed when exposed upon ivory points for six hours to the action of an atmosphere containing one per cent of nitrous acid.

Oil of Mustard.—The presence of this substance in the proportion of 1:33000 is sufficient to prevent the *development* of anthrax spores, though so weak a preparation does not kill them.

Oil of Turpentine.—Koch found that though oil of turpentine failed to destroy the spores of anthrax in one day they were destroyed by such exposure for five days; he found also that their development was effectually prevented by the presence of the substance in the proportion of 1:75000. Christmas, in his experiments upon the pus cocci, says that an excess of oil of turpentine added to liquefied gelatin cultures of the *Staphylococcus pyogenes aureus* was unable to destroy the micrococci even in eight hours.

Oleic Acid.—$HC_{18}H_{33}O_2$. Oleic acid is a constituent of most facts, especially oily fats—olive oil for instance being almost entirely an oleate of glyceryl. The experiments of Koch seem to indicate that the substance has little if any antiseptic power. A five per cent solu-

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tion in ether failed to destroy anthrax spores in five days.

Olive Oil.—This substance, as has been stated, is almost entirely, when pure, glyceryl oleate. Koch has determined that anthrax spores germinate even after ninety days immersion in this substance; indicating an apparent absence of any germicidal action whatsoever.

Osmic Acid.—H_2OsO_4. Koch has determined that this substance will kill anthrax spores in twenty-four hours if present in the strength of one per cent. Miquel has determined that the substance is antiseptic in the proportion of 1:6666.

Oxalic Acid.—$H_2C_2O_4$. Kitasato has determined that this substance, in the strength of .36 per cent, will destroy typhoid bacilli in five hours and that a solution of the strength of .28 per cent will kill cholera spirilla in the same time.

Oxygen.—This element exists in two conditions—one the free and normal element whose molecule is expressed by the symbol O_2 and the other, an allotropic modification, termed ozone whose molecule is represented by the symbol O_3. Free oxygen is necessary for the development of a large number of species of bacteria—indeed it is essential to all aerobic species; on the other hand it completely prevents the growth and development of the anaerobic species.

[TO BE CONTINUED.]

The Relation of Insufficiencies of the Ocular Muscles to Functional Nervous Diseases.

BY J. ELLIS JENNINGS, M.D.

Read before the St. Louis Medical Society, March 24, 1894.

Another subject of great interest, to which I desire to call the attention of the society, is the Relation of Insufficiencies of the Ocular Muscles to Functional Nervous Diseases. This relation has received wide discussion since 1883, when Geo. T. Stevens published his memoir on Functional Nervous Diseases. The matter is summed up in the following proposition. "Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are amongst the most prolific sources of nervous disturbances and more frequently than other conditions constitute a neuropathic tendency."

The neuropathic tendency may be inherited and depends, not upon some mysterious general disturbance, but, in the vast majority of cases, upon an inherited local peculiarity. In considering the local peculiarities that may be inherited, one is at once struck with the role played by the organ of sight.

The facial resemblance of members of the same family depends, in large part, upon the construction of the orbit, eyeball and neighboring parts of the face. A broad flat face is, in many cases, associated with a short eyeball. A narrow face with prominent features, indicates a long eyeball and an irregular face is suggestive of astigmatism. Then again, a want of muscular balance may be inherited, and all can recall instances where members of the same family have squinted.

Short eyeballs and unbalanced muscles sap the reserve store of nervous energy. If the patient is in good health and does not overtax the eyes, nature may struggle on uncomplainingly. But should, at any time, an excessive demand be made upon the nervous energy, by sickness, grief, fright, etc., any use of the eyes will call forth symptoms of nervous exhaustion.

With these preliminary remarks I wish to report the following case: Mrs. Ada S., age 24, farmer's wife, is a tall slender woman. She has suffered for the past ten years, with frequent attacks of headaches, pain in the back and nervous depression. Her headaches are made worse if she attempts to read or do any close work. She is irritable and cannot bear to meet strangers or be in a room where there are more than one or two persons. Medical treatment has failed to relieve her distressing condition.

O.D. $^6/_{24}$ c cyl.—3 D ax 180° = $^6/_6$.

O.S. $^6/_{24}$ c cyl.—3 D ax 180° = $^6/_9$.

An examination of the muscular equilibrium shows a left hypophoria, that is, the left eye is directed to a considerably higher level than the right. A prism of 16° base up over the right eye brings the images on a level about three inches apart. Adduction is weak, as is shown by the difficulty in fusing the images. They fuse for a few seconds and then separate.

The tendon of the right inferior rectus was divided and I found that I had slightly over corrected the error. The images were fused by a 3° prism base down over the right eye. Three days later there was still slight diplopia, as was shown by testing, but the patient looked much brighter. Two weeks later I saw the patient again and was very much gratified to find binocular fixation. She was much improved as to her general health, had had no return of the headaches, and was pleased beyond measure by the result of the treatment.

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Remarks on the Treatment of Two Cases of Lamellar Cataract.

BY J. ELLIS JENNINGS, M D.

Read before the St. Louis Medical Society, March 24, 1894.

Mr. President and Gentlemen.—I wish to call your attention to two cases of Lamellar Cataract, and to lay stress upon the importance of delaying operative interference until the child is old enough to read, and until an accurate correction of any error of refraction has been made.

Case I.—Arthur B., age 12, has always had bad sight. Several oculists have been consulted, a diagnosis made and an operatin advised. I saw the case in January. Opthalmoscopic examination shows a typical

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lamellar cataract in each eye. The opacity is quite dense; but scattered between the opaque layers are many clear spaces through which an indistinct view of the fundus can be obtained. The peripheral portion of each lens is clear and free from radiating lines. This is a point of great importance, indicating that the opacity, in all probability, will remain stationary throughout life. From the opthalmoscopic examination alone one would unhesitatingly conclude that useful vision could not be obtained without resorting to operative means.

V. O.D. $^{6}/_{60}$ F. at 5 inches.
O.S. $^{6}/_{36}$ F. at 6 inches

After a careful refraction I obtained the following:

O.D. sph.—1 D ⊂ cyl—3 D ax 180°=$^{6}/_{9}$.
O.S. sph.—0.75 D ⊂ cyl—2.50 D ax 30°=$^{6}/_{9}$.

Case II.—Geo. R., age 8, has had defective vision since birth. Four years ago an oculist diagnosed lamellar cataract and performed the operation of discission upon the right lens, with the intention of doing the left at a subsequent sitting. For some reason this was not done. When I saw the case, the boy had thrown aside his aphakic glasses and was using the left (unoperated) eye for near and distant vision.

V. O.D. $^{3}/_{60}$ c sph+9. D=$^{6}/_{18}$.
O.S. $^{6}/_{60}$ c sph.—1 D ⊂ cyl.—1.50 D ax 180°=$^{6}/_{9}$ 2-lat.

In other words, after the optical defects had been corrected the unoperated eye had almost again as much vision as the eye from which the lens had been removed.

Fuchs, in his Text Book of opthalmology, page 387, says: "Cataracts which are congenital or develop in childhood, should be operated upon as early as possible. Children can be subjected to the operation of discission with good results at the age of a few weeks. If the cataract is not operated upon, the development of the retina is arrested and amblyopia exanopsia is produced. Consequently, the good results of a cataract operation that is performed at a later date is comparatively small as far as vision is concerned."

Of course, a certain proportion of cataracts, which are congenital or develop in childhood, are total opacities. No light enters the eye and the retina receives no stimulation. In these cases, the sooner the obstruction to light is removed, the better. But the vast majority of congenital or early cataracts are of the lamellar variety. Light enters the eye through the clear spaces between the opaque sectors and, although vision is dim, the patient is able to get about and see large objects. The cases cited show that at the age of 12 and 8 years respectively, the retina was in a healthy and sensitive condition. They furthermore show that objectively we cannot estimate the visual acuity from the appearance of the opacity, and that useful and often surprisingly good vision may be obtained by an accurate correction of the refractive error.

Case II, is particlarly instructive, for here we have, in the same case, an example of both methods of treatment. At 4 years of age, the right lens was removed and a high convex lens ordered for distance and a stronger one for reading. Fours years later we find that the boy has discarded his glasses and is using the unoperated eye for near and distant work, and, although the density of the opacity precludes the thought, yet, when the astigmatism has been corrected, the visual acuity becomes practically normal.

In view of the above cases the following points are suggested.

1. That we cannot estimate the visual acuity from the density of the opacity.
2. We should therefore not operate until the child is old enough to read and until we have corrected any error of refraction.
3. That, if so waiting, we need not fear amblyopia exanopia.
4. That, if we can secure working vision, it is unwise to remove the lens.

Neuratrophia, Neurasthenia and Neuriatria.

BY C. H. HUGHES, M.D.

Read before the St. Louis Medical Society, March 24, 1894.

When Beard, but a few years ago, first broached the subject of nervous exhaustion as a distinctive and definite condition of the nervous system without accompanying or precedent localized organic lesion or hemic disease, he was regarded by many as a visionary theorist, if not as a "crank," and when Van Dusen, that Kalamazoo hospital physician who preceded Beard in the presentation of this subject, offered his first contribution to the profession through the pages of a standard medical periodical (the *American Journal of Insanity*, 1887), he was scarcely given a hearing by the leaders and moulders of medical opinion, and Dunglison had carried the unused and unnoticed term in his standard American medical dictionary for some years before these live observers vitalized it and rescued it from the fate of so many good terms now epitaphed as obsolete.

Now the term neurasthenia and its explanatory phrase, nervous exhaustion, though not half a century old, is in every mouth, medical and non-medical, a substitute for more accurate diagnosis and a satisfactory explanation for conditions whose prime cause is often elsewhere than in the nervous system. So that, while neurasthenia is a real condition, it is in danger of becoming a fad with physicians and a convenient substitute for inaccurate diagnosis.

This term has been used to designate the debility of anemia and chlorosis, the exhaustion of marasmus, toxemia and the post-febrile sequellæ, as well as the debility of enteric phthisis, and the neural perversions of hysteria and neuro-venereal debility. In this broadened sense it is an exceedingly vague term. Applied so indefinitely and without discriminating significance, it means nothing but general weakness; whereas, to the

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neurologist, it has a far more definite and significant meaning.

The neurasthenia of neurology is a condition of the nervous system *sui generis*. It is not necessarily a sequence of organic disorder or of chemical or microbic toxicity, or of poison or starvation of the blood from any cause. It is not a blood disease. It is a neural debility, dependent upon an inherent factor and inadequate central nerve cell power of appropriation and in stability of expression. The instability is due to central debility, and the debility is due to neuratrophia consequent upon over tax and the hereditary factor, by which assimilation of force is not equal to expenditure. The equilibrium, between central nerve repair and waste or disintegration incidental to action or organic function, is disturbed, and the balance is against the functional integrity of the central nervous system. This may take place when the blood is rich in reconstructive elements, so that, while depravity of the blood may bring out the instable displays and develop the under tone of nervous exhaustion in the predisposed, it usually takes place from pure prolonged or intense overtax of cerebral and cerebro-spinal centers and the physical conditions, the atony of the organs, the apepsia or dyspepsia nervosa, the hepatic or intestinal torpor, the cardiac debility and irregularity, and all the train of psychical symptoms—morbid irresolution and timidity, the dreads, the fears, the sensory perversions, the anesthesias and hyperesthesias, the analgesias and hyperalgesias, the flushing and vertigos, the claustrophobias, mysophobias, morbiphobias, heterophobias, etc., as well as the more defined intellectual and emotional perversions of its later stages, delusive and imperative conceptions, perceptions and feelings, and sometimes morbid impulses, are the outcome of the cerebral asthenia profoundly affecting the cortex and associately the region of the medulla and pons. If we follow the nerve channels of conduction of motor influences down from the psychomotor areas of the cortex through the corpus striatum to their outward peripheral, and the sensory fibres through the thalamus opticus to their inward central expression, and if we search in the *iter a tertio ad quartum ventriculum*, and in the walls of the fourth ventricle—among the cranial nerve nuclei there, we should find, figuratively speaking, in these centers of afferent and efferent nerve cerebral impression, as well as in the trophic centers of the brain and cord and in the cerebellar, cerebral and spinal connection of the pons, an explanation of conditions that do not necessitate precedent functional or organic disease in certain organs to account for neurasthenia. On the contrary, the neurasthenia and its underlying central neurathropia accounts in numberless instances for the complications in the viscera. But the general practitioner has been, hitherto, so accustomed to locate disease in organs and, fastening upon a certain organ, now the liver, now the kidney, now the stomach, (and always the ovary, if his patient be a woman and her physician one of that narrow kind of gynecologists—now happily passing away, generally the kidney, if a man and his physician a nephrectomist), and treating it to the exclusion of the nervous system that it has become the popular custom (and popular custom follows professional, a little way off), to charge the troubles of the neurasthenic to the organ or organs that most prominently reveal disordered feeling, as the hypochondriac, social and political, is just now asking what shall be done with the moral cranks of society, but what are we to do with these hypochondriacal cranks in our profession whose fatal fad it is to load all the ailments of the physical body, including those within the realms of psychiatry, on some one organ, and that one the particular organ or group of organs which they especially treat, and finally, finding themselves unsuccessful in their therapy, as must necessarily be with all such narrow gauge and limited visual range practitioners, become skeptics in regard to the value of medicine in the treatment of disease in general, they advise their patients to do without medicines simply because they, by narrow or mistaken diagnosis, have been unsuccessful. They harm the public by such advise, because by wrong counsel, they rob the patient of available resources in the hands of the more skillful. That, for instance, must happen to such of the public as, finding themselves suffering from vaso-motor failure and a sequent turgescence of the nasal mucous membrane, are prompted to seek the narrow nose specialist who sees only follicular rhinitis in such cases and not the lowered nerve tone behind them. The unfortunate patient gets his nose douched every spring and fall, until finally the rhinologist, becoming tired of treating the same patient so long or of having his other patients seeing the same patient every season in his office, tells him there is no cure or the only cure is on the sea shore, change of climate or travel, when a proper treatment of the patient including his nose or even excluding it, would have effected a cure in one season; or *vice versa*, suppose a person having a neuralgia or nerve pain from tumor, an abscess or pressure or other morbid surgical cause in its center or course, is treated by an equally narrow neurologist for a disease of the nervous system. And neural disease is oftentimes misinterpreted even by the neurologist who should know better. The nose, the nerves, the heart, the ovaries, the kidneys, the bladder, the bowels, the lungs, the liver and the stomach, are often treated in this way, because they are found to be the seats of pain, irritation and disordered function. I have known a patient to escape the loss of a kidney, at the hands of the surgeon who proposed nephrectomy for obstinate renal neuralgia, and numberless instances are on record, and many within my own observation, of simple neuropathic women who have escaped oophorectomy, to have their irritable ovaries finally entirely relieved by judicious constitutional treatment addressed to the hyperesthetic and weakened sensory and vaso-motor system and by general constitutional repair. Others have not been so fortunate, some having had both ovaries removed, yet the neural disturbance continued, and some have passed the neurasthenia and

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oophorectomy on to the painful sequel of insanity.

Nearly all dyspepsias are due to brain strain and impaired or defective vagus innervation. In short, it is primarily a brain trouble in the vast majority of dyspeptics, as Amariah Brigham, a distinguished American physician, as long ago as 1832, first pointed out. The most of the symptoms of cholera, as the draining off of the blood serum in rice-water discharges, the cramps, the collapse, are all disorders of the nervous system, and the now prevailing grippe is a toxic neurosis; and is not that indefatigable worker in dermatology, Ohmann-Dumesnil, our colleague, every now and then finding a new nervous disease of the skin, until neural dermatology or dermatological neurology has almost become a special department of medical work. And what would Love, of acknowledged success with children, amount to if he ignored their delicate nervous system in the treatment of their many maladies, which are so largely nervous.

Though it has been but a short time since I introduced into the nomenclature of medicine the terms neuratrophia and neuriatry, their meaning and importance, in general practice even are becoming quite well understood. The new Century Dictionary has adopted them, and the profession, even in general medicine, has given them practical significance by recognizing the importance of recognizing the neural factor in the management of diseases in general, whether the disease primarily, secondarily or concomitantly involves the nervous system. The general practitioner must be a neurol ogist to achieve the highest success in practice, and the success of a neurologist depends upon his knowledge of medicine and the wide range of his clinical experience, and *vice versa*, always. A specialist may limit himself to one line of work but not to one line of research, for his patient is ill, as well as the part of perverted physiological system he treats, and whatever part he treats he should remember that,

"All are but parts of one great whole,
Whose life the blood is and the nerves the soul."

The physician who does not study and treat his patient all over, or who is not competent to advise his patient how and where to remedy all his maladies, is apt to be a no bigger man in his practice than the little fellow in naso pharyngology who knows only how to douche the nose and throat, or of those other little fel lows, the narrow otologists and ophthalmologists, the range of whose practical skill extends but little further than a few collyria and the plucking out of ingrown hairs, or of touching the region of the tympanum and inflating the Eustachean tube. The true specialist of nose, or eye, or ear, studies from a broader standpoint. In short he is a physician.

Gentlemen, we have reached a period in the evolution of medicine where there is no place for the little neurasthenic doctor with dudish ways, either in the specialties or in general practice. We have reached a period when a man should know his whole profession, no matter in what department or division of labor he works. We have reached a point where we are more dependent upon each other than ever before for mutual advise and counsel.

Sir Oracle of the past in our ranks, is dead. A confraternity of collaborators have taken his place. We are all neurologists. We are all general physicians, at least in the study of phenomena and relationship of disease, though the field must be worked over by special workmen. We call them specialists because of the limited range of their respective labors, it being impossibie for one man to practice over the whole field. In the sense and under this view, I propose to tell you how I treat essential nervous exhaustion or neurasthenia, and, while not ignoring other of Nature's aids, I do not despise the assistance or undervalue the potency of medicines in promoting recovery from this peculiarly American disease of the counting house, the pulpit, the rostrum, and the exchange.

General neurathropia, or its functional expression neurasthenia, is a disease of the overworked brain and overtasked allied nervous system. It is the disease which first overtakes the man of extensive business affairs and cares, who egotistically regards his brain and connected nervous system as a perpetual motion machine not governed by the ordinary laws of supply and demand of nerve force, of waste and repair of energy, of the man who stimulates and goads when he ought to sleep, who prods the tired animal to desperate efforts when, under overtaxed Nature's demand for rest, it lags in effort, of the man who not only expands the principle of his stored-up nerve energy by drawing out all the reserve and exhausting the interest and, being unprepared for the unexpected bankruptcy, finds himself involved in business affairs he no longer has the strength to satisfactorily conduct. The successful lawyer, the great jurist, the popular actor, the talented preacher, the successful politician, the skilled and publicly appreciated physician, the brilliant writer (sometimes he is an editor), the artist, the architect, the zealous tradesman, ambitious politician, all and every one in every rank of life who runs for life's prizes without heeding the physiological warning on the wall, treat themselves in the same suicidal way, as if there were for them no physiological reckoning, no pathological hereafter.

It is fortunate for many of these that, by reason of inherent tendency to neuropathic instability acquired, ancestral overstrain transmitted, the let-down in neuratrophia giving out in neural functioning power, rather than in the graver forms of nerve failure, like the paralyses, apoplexias, the pareses and scleroses.

These ambition-crazed cranks (I use the term in its milder sense) have turned at the wheel of progress, personal or public, until their own machinery goes wrong, unmindful of the law in physiology as in physics, that rest, as well as action, is essential to repair and that, as the machinery of man's own contrivance, its movements must be stopped at times, in order to keep it properly reconstructed and serviceable.

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Though books have been written on the subject, the causes of neuratrophia and its consequent neurasthenia, under the designation of neurasthenia only, need not be more distinctly enumerated. They are overwork, wear and worry of the brain, and the symptoms, especially the dyspepsia in men and the utero-ovarian and spinal irritations in women, which have so often been treated as its causes or its consequences. I have seen patients unsexed and their backs burnt with white heat whose sole trouble was nervous exhaustion and associated spinal or ovarian irritation, and equally inappropriate treatment and vicious diagnosis, as for organic disease, has been often applied to the irritable hearts of these very unfortunate patients; and as for the hysterics, what contumely suspicion and lack of sympathy have they suffered at our hands for conditions of irritability they could no more control unaided than could the epileptic restrain his spasm.

It is apparent, to every careful observer, that neuratrophia or neurasthenia is both a primary and secondary condition, and that its accession under conditions of over-brain strain, adverse stress of the emotions, as in great grief or overmastering sorrow, or as a sequence to the devitalizing organic or circulatory diseases, must be carefully differentiated in order to accomplish its successful treatment and, in my judgment and experience, it is always amenable to cure if the physician can get at all the determining factors and have entire control of the patient's environment and treatment. I think I have never failed under these circumstances and that largely with very great assistance from suitable medication, including the use of electricity, massage and passive exercise. I do not believe in the employment of hypnotism in these, as this always involves a cultivated perversion of the individual's normal will which, in my judgment, should seldom be systematically employed in any disease, and when it is deemed proper to employ it, it should be done after due deliberation and for the very best reasons only.

Hypnotism is somnavolism, and somnavolism is the absence or abeyance of the individual's normal will and subjection to the will of any other, through sleep psychically induced and not naturally induced. But sleep is the paramount remedy for neurasthenia, as it is natural fatigue—prolonged, quiet, dreamless, tranquil, recuperating sleep, that restores the exhausted ganglion cells of the overtaxed cerebral cortex as it "knits up the ravelled sleeve of care"—and all the agencies, chemical, psychical, physical, moral, which may bring about the right kind of sleep in the right time when Nature inclines the human organism to rest, are indicated and desirable. The conditions of repair, as well as of action, reside in organisms, and Nature's mechanism must rest in its defective parts while that master mechanic, Vis Medicatrix Naturæ, attends to its reparation. Nature's workmen must have the materials for reconstruction at hand, and these are not all air and sunshine, but the things that the air and sunshine act upon to promote reconstruction and normal metabolism. The hematic reconstructives and those agencies which counteract the poisons of the blood, which infect the neurasthenic as they do other patients and cause neurasthenia, are called for. Iron, quinine and strychnia and the iodides are often so obviously indicated, that I need hardly mention them to secure approbation of their use. The neurologist differs from the general practitioner in the employment of these agencies (at least I do) by often employing them by means of electro-cataphoresis, because he has more time in his office to do so, as he does, (or at least, as I do), in the employment of electricity. The emunctories need attention as in other diseases.

The patients need also, during their course of treatment, the tissue building phosphites, the arsenicals and galvanism, to promote cell appropriation and re-establish normal cell activity and tranquility in the affected centers of the cerebro-spinal axis. There is danger of overdosing the patients with the bromides because it quiets them, and of forming drug habits especially morpho-mania, because the latter makes the patient feel better at once. This is the practice of the tyro, the quack and the druggist.

The bromide of potassium should never be given to these patients; when bromide is used it should be either the ammonium, sodium or lithium salt. The proper bromides should be used sparingly, hematic reconstructives and nutrients freely enough for rebuilding, hypnotics only at nighttime and the idiosyncrasies and peculiar disease tendencies as to rheumatism, gout, neuralgia, local congestions, hepatic torpidity, constipation, etc, should be duly regarded and remedied. Thus, to successfully conduct the neuriatry of neurasthenia, the neurologist should be a competent general practitioner, and something more. We should have the special skill and facilities of a neurological practitioner for the graver cases. The general practitioner, if he is alert as he ought to be, can manage the minor and the major, too, perhaps, if he is willing to take the necessary time and patience to accomplish the task. So, in conclusion, we have come to see, as the knowledge of the specialties diffuses in the profession, that the dictum of Culler was not so far out of the way, "Quantum ego quidem video motus morbosi fere omnes a motibus in systemate nervorum ita pendent ut morbi fere omnes quodammodo nervosi dici queant," and so I say, the nervous system is more or less involved in all diseases, and in treating diseases of the nervous system, we should look for and remedy morbid implication throughout the body. We are all neurologists; we are all general practitioners, though we may labor in special and limited fields.

Quintuplets.—The wife of Mr. Rosenberger, of Kittanning, Pa., recently gave birth to five children The birthplace of the children although curiously spelled, has a significant association with the event.

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EDITORIALS

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All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

All communications for the editor, and all books for review, should be addressed to the editor, 914 Locust street.

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Malpractice.

The medical profession of New York has recently been somewhat agitated over the testimony of a physician in a malpractice suit. The latter had testified that the treatment of defendant, who is a member of the same county medical society, was to be designated as malpractice. The court rejected the suit with the argument, "no cause of action."

The defendant instigated an investigation of the matter in the county society and offered a proposition of expulsion of the colleague who testified against him, for having committed an offense against the "Code of Ethics."

It is hard to understand upon what grounds defendant bases his action; he certainly cannot expect a witness to testify under oath against his conviction, even if this conviction is due to a wrong conception of the meaning of the law, which it was, in this case, in all probability. The forces that bring about certain results are not absolutely controllable and often interfere with the plans of the physician in producing a different result than that confidently depended upon, and for this reason the definition of malpractice is an exceedingly knotty problem.

The leading cases in America on the subject of civil liability for malpractice are: Leighton vs. Sargent, and Carpenter vs. Blake. In the former case the court said: "In a science encumbered with so many sources of error and difficulties, it is obvious what cause we have for proceeding from step to step with the greatest circumspection. It is in consideration of those peculiar difficulties that beset and encompass the physician and surgeon, that all enlightened courts have held that but ordinary care and skill shall be required of them, and that mere errors of judgment shall be overlooked, if the general character of treatment has been honest and intelligent, and that the result of the case shall not determine the amount of the responsibility to which he is held; and that when unskillfulness or negligent treatment of his patient is charged to a surgeon, it is not enough to show that he has not treated his patient in that mode or has not used measures which in the opinion of others, though medical men, the case required; because such evidence tends to prove errors of judgment, for which the defendant is not responsible, as much as it goes to prove a want of reasonable skill and care for which he may be responsible. Alone it is not evidence of the latter, and therefore a party must go further and prove, by other evidence, that the defendant assumed the character and undertook to act as a physician without the education, knowledge and skill which entitled him to act in that capacity."

In Carpenter vs. Blake, upon the last appeal, it was said that, "the reasonable ordinary care and diligence which the law requires of physicians and surgeons is that which persons engaged in the same general line of practice have and exercise in the like cases."

It appears, however, from a decision of the court reached in a case of Small vs. Howard, that what would have been, but a few years ago, recognized by the courts as ordinary skill in the treatment of disease and the performance of operations, would now be regarded as antiquated and less than ordinary skill, because of the advancement in the knowledge of means which can be devoted to the treatment of disease and injury. The constant change and improvement which are going on in medical and surgical education and in the new methods of treatment, improved technique and invention of new instruments, tend constantly to elevate the average skill and intelligence of the profession and the standard by which the courts will determine liability for negligence.

A more cautious and lenient view than the latter has been expressed by a German court. The case has been published in the leading medical journals and is of much importance and interest. A surgeon had been accused of causing the death of a patient by entire neglect in an operation of any antiseptic rules. The court, after the admission of expert testimony, decided that, although the rules of antiseptics and asepsis were almost generally accepted, a neglect of the same could not be looked upon as malpractice and that a physician who had been examined by the State, and who had been acting according to his scientific conviction, could not

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be forced to exchange the same for a more modern view, which had not, by any means, been proven to be absolutely certain in its results.

While this view is far-reaching in its consequences and, at first sight, does not appear to be in exact harmony with truth, we must admit that, if the court had given a contrary decision, every surgeon that loses a case from sepsis could be prosecuted for criminal negligence. It seems impossible to put up an exact general rule of what constitutes malpractice; each case will have to be judged by its individual features; but on the witness stand a physician has to testify according to his conviction, and it appears unreasonable for any one to call the Code of Ethics to his aid, because a colleague testified against him.

BOOK REVIEWS

Lectures on Auto-Intoxication in Disease, or Self-Poisoning of the Individual. By Ch. Bouchard, Professor of Pathology and Therapeutics, Member of the Academy of Medicine, and Physician to the Hospitals, Paris. Translated, with a Preface, by Thomas Oliver, M.A., M.D., F.R C.P., Professor of Physiology, University of Durham; Physician to the Royal Infirmary, Newcastle upon Tyne; and Examiner in Physiology, Conjoint Board of England. In one Octavo Volume; 302 pages. Extra Cloth, $1.75 net. Philadelphia: The F. A. Davis Co. St. Louis: J. H. Chambers & Co., 914 Locust Street.

Excessive putrefactive processes in the intestinal canal and the development of leucomaines and pto maines, resp. toxins, play an important part in many processes of disease until lately unknown or misunderstood. The author's subject, "Auto-Intoxication," has, within the last few years, attracted much attention and is one of much importance and interest. The author's views, which are expressed in the form of thirty-two lectures are in the main, based upon exact scientific ex periments, the therapy of the different affections also receiving due consideration. The work is original and very instructive. Practitioners and teachers cannot afford to do without it.

A Text-Book of the Diseases of Women. By Henry J. Garrigues, A.M., M D. Containing Three Hundred and Ten Engravings and Colored Plates. Price, Cloth, $4 00; Sheep, $5.00. Philadelphia: W. B. Saunders. St. Louis: J. H. Chambers & Co., 914 Locust Street.

This work, being intended as a text-book for beginners and a manual for general practitioners, serves its purpose admirably. The readers' time is not taken up by reference to the historical development of gynecology nor by theoretical discussions and the pathology has been treated very briefly. In giving the treatment of the various affections the simpler and innocuous means are always mentioned before the complicated and more dangerous, medical and electrical treatment being accorded precedence over surgical. The work represents the treatment particularly as practiced in America and therefore recommends itself particularly to American students and practitioners. The many illustrations serve their purpose well in elucidating the text; they form a complete atlas of the embryology and anatomy of the female genitalia, and represent numerous operations and pathological conditions.

Operative Surgery. By Th. Kocher, M.D , Professor at the University and Director of the Surgical Clinic at the Berne University. 8vo., 288 pages, 163 Illustrations. Extra Muslin, price, $3.00. New York: Wm. Wood & Co. St. Louis: J. H. Chambers & Co., 914 Locust Street.

In this work the author gives the briefest possible directions for the rapid posting on an operation to be performed. Only such methods are recommended by the author that he has tried and proved by many years' clinical experience. This feature as well as the many illustrations stamp the work with the seal of originality. In his object to furnish us with a hand-book by means of which the operator may quickly post himself the author has succeeded most admirably. The numerous illustrations are original, clear and helpful, and the work in general is an exceedingly practical one and cannot be too highly recommended to students and practitioners.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, March 24, 1894.

The Vice-President, HEINE MARKS, M.D., in the chair.

DR LOEB presented a hard-rubber tube, devised by himself, for use in a case of atresia of the nostrils. In the case in which the tube had been used, a lady 30 years of age, the atresia was caused by cicatrization resulting from an attack of small pox when the patient was two years old.

In April 1893, the cicatricial tissue was cut down upon and the mucous membrane stitched to the skin. The tube was worn continously for three months and then gradually withdrawn, at first a few hours each day and finally retained only at night. One nostril is entirely recovered but the other will require another operation,

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a part of the lateral cartilage having been destroyed.

Dr. Barclay called attention to the fact, that the nostrils may become closed by bony atresia, a rare, occurrance, or by membranous growths. He has used, successfully in one case, a method proposed by Daly of London. This consists in employing finely powdered gallic acid on the denuded surface, after operations on the bony septum, until the surface has healed over. By this method closure of the nostrils may be prevented and, the doctor thought, it constituted a better method than the use of the tampon or canula.

Dr. J. Ellis Jennings read two papers (See page 285), entitled

The Relation of Insufficiencies of the Ocular Muscles to Functional Nervous Diseases, and Remarks on the Treatment of Two Cases of Lamellar Cataract.

Dr. Murrell thought that congenital cataract should not be operated upon in infants, not before the child is able to run about, and then only in cases where vision wound be very materially improved by the operation. The cataract is located on the posterior polar part of the lens and its tendency is to grow as the child gets older, vision becoming progressively worse until finally all practical vision is excluded. An operation should not be done in these cases as long as the child can see to get about, and also not if by a careful opthalmoscopic examination, which should always be made, we can get a distinct red reflex or see the blood vessels through the opacity. The condition known as Amblyopia-exhemanopsia, is not always due to the exclusion of light and the non-stimulation of the retina, but is often a congenital defect. This is proved by the defective vision remaining even after operation and the restoration of the passage of the rays of light to the retina. If we have to deal with a soft cataract, matured by a capsule, in which all practical vision is shut off, operation should be done early in order to cultivate the retina as soon as possible.

In reference to the connection between Muscular Insufficiencies and Functional Diseases, the doctor thought the point was well taken. He had taken the position, in a paper read before the American Medical Association, that insufficiencies are always accompanied by errors of refraction. If the insufficiency is small, it may be corrected by correcting the error of refraction, but for a considerable insufficiency we have to do more.

He cited the case of a lady, who had received electric treatment at the hands of a specialist for a whole year, in whom the headache ceased entirely when he corrected a refractive error in the right eye by a half degree prism lens. He thought, that whenever there is headache and painful vision from muscular insufficiency in connection with neurasthenia, there is always a fault with the eye, and the fact that the patient gets better and then throws aside his glasses, is no proof that there is no fault of the eye.

Dr. Hughes thought it wrong to become too radical on this subject. He believed that opthalmology is but a department of neurology; that most of the patients requiring neurological treatment require treatment for the eyes, and, in recognition of this fact, he is in the habit of sending his patients to an opthalmologist to have their eyes examined. If there is a defect he always advises its correction by proper glasses, or, if need be, by operation, and he has seen benefits accrue from this proceedure. But he has also noticed that the tonicity and development of the optic muscles was dependent upon neural condition, and that when a patient is perfectly well, neurologically speaking, he can stand a good deal of defective vision. It is the neurasthenic, the morbidly impressible, the hereditarily unstable, or the patient of acquired nervous instability, who manifests these marked effects of ocular troubles, aside from the organic troubles which effect the eyes.

He believes it good practice to care for every opthalmological defect, and has seen an amelioration of symptoms in neurotic cases as a result of their correction, but he has never seen a case of idiopathic epilepsy cured by such an operation as that performed by Dr. Stevens of New York, nor does he believe that this disease is ever developed, de novo, in persons not having the epileptic tendency. He cited the case of a patient who had troubled him a great deal, and went to Dr. Stevens to have his eyes properly adjusted. This was done, but the condition of the patient did not change, and he ended his life by suicide.

Another case, whom he had referred to Dr. Murrell, was a neurasthenic and had some defect of vision. The nervous trouble is considerably improved, and with this improvement the need of glasses is gradually disappearing.

Dr. A. D. Williams said, it is an interesting fact that lamellar cataracts are usually congenital. Only a few days ago he had examined a lady in whose family there were five cases of congenital cataract. Some years ago, he operated upon a man, 36 years of age, who was born blind. He got a fairly good result although the lens was totally obstructed.

In this family there had been 19 cases of congenital cataract in three generations. He doubted the statement that amblyopia is the result of non-stimulation of the retina, but thought that it is a congenital defect.

He thought that nerve troubles and deficiencies of the ocular muscles were closely allied in many cases, and that the use of properly adjusted glasses often resulted in relief of the nervous symptoms, but he believed that Dr. Stevens is an extremist on the subject of tenotomy.

Dr. Jennings called attention to a reprint received from Ranney of New York, in which he gives the history of 24 cases suffering with constant attacks of epilepsy. Large doses of the bromides did not keep the attacks in abeyance, but the patient ceased to have convulsions for from two to five years when the medicinal treatment was stopped and the muscular defects corrected.

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Dr. Pollak remembered the action of the New York Academy of Medicine, in appointing a committee to furnish material to Dr. Stevens, upon which to practice according to his theory for the cure of epilepsy. The committee furnished him 24 cases, and gave him a year to accomplish a cure, with the result that only one was cured. He performed graduated tenotomy.

Dr. Bremer remembered the report of the 24 cases, referred to by Dr. Pollak, and said that Dr. Stevens' method was not only useless but harmful in some cases. The cases furnished Dr. Stevens, were provided by neurologists and were true cases of epilepsy. Some so-called cases of epilepsy are hysterical convulsions, and there may not be an element of epilepsy in the case. He considered the correction of deficiencies of the eye muscles absolutely necessary in nervous troubles, and frequently sends his patients to the opthalmologists to have proper glasses adjusted.

He recalled a particularly sad case of an hypochondriac, melancholic, in whose family a strong hereditary tendency to mental troubles could be shown. This patient consulted Dr. Stevens, who assigned the trouble exclusively to the eye. Two operations were performed at different times but the patient was worse than before, as a cure had been promised. He then went to Chicago, where an operation was performed on the rectum. He became slightly improved but learned later that it was due to morphine. He was a pharmacopeio-maniac and above all a morphino-maniac and, fearing that he would become a victim to the opium habit, he committed suicide with a pistol.

While there can be no doubt that the patient, in some cases, is vastly benefited by an operation on the eye, even in cases of neuroses, the trouble is that such operations are usually performed for nerve troubles of obscure origin.

Dr. C. H. Hughes read a paper (See page 286), entitled

Neuratrophia, Neurasthenia and Neuriatria.

Dr. Love said that he did not boubt the existence of neurasthenia as a pathological entity, but claimed that nine tenths of so-called cases were merely nerve tire. He had written his paper from the standpoint of the general practitioner, although he no longer belongs to that realm. It is very deplorable to note how many patients are informed that they are suffering from neurasthenia, when the trouble is really due to a disease of some special organs. He advocated a greater accuracy in diagnosis, and a consideration of the patient's general constitution, when disease of a special organ is suspected.

Dr. Bremer said that when there is a question as to the identity of hysteria and neurasthenia, the votes should be counted and weighed. He believed that if Charcot says there is a wide difference, all the neurologists of the world might stand up and they would count for nothing. Charcot has been the greatest neurologist of modern times, and may be for all time to come, and he was the first to point out the stigmata of hysteria and to give the proper definition of the stigmata of neurasthenia. There is no doubt that many so called cases are diagnosed wrong, he himself having seen cases of cerebral softening and locomotor ataxia diagnosed as neurasthenia.

It is one of the peculiarities of the disease that it attacks the apparently robust, and just this makes it so misleading. The patients are often giants and, seemingly, pictures of health, and are often set down as victims of their own imaginings and hypochondriasis.

He complimented Dr. Hughes upon having been the first to have called attention to the symptoms of morbid fears, of a state of panic in neurasthenics, which constitutes one of the greatest peculiarities of the disease, and for the discovery of which he is given credit by all the standard authors.

Dr. Hughes thought that there need be no collision between the general practitioner and the neurologist upon this subject. He had no doubt that many cases of so called neurasthenia were merely nerve tire, but maintained that such a condition as neurasthenia did exist, in which the nervous system becomes implicated in such a manner that the normal response of repair does not take place. It is a condition which, unless properly treated and overcome, will eventually overwhelm the patient.

There is a wide difference between hysteria and neurasthenia. Hysteria, at first considered a trifling, laughable matter, is now considered in a different light and demands active and careful treatment.

ABSTRACTS

OBSTETRICS AND GYNECOLOGY.

Gynecological Notes.—In the discussion of the effect of removal of uterine appendages, Dr. Joseph Price says:

"Many years ago I did a hysterectony in a lovely woman of 23 years, an excellent musician, she still plays and sings and her voice is as sweet as ever. Again I did a section for double pyosalpinx. The subject possessed the finest contralto voice in the city; she continues to sing with an improved voice. I could cite a good number of cases of similar character."

Dr. G. Betton Massey characterises the castration of women as a fad. His language before the Obstetrical Society of Philadelphia in the discussion on Dr. W. Goodell's paper on the castration of women says: "Why is it that great bodies of men once a week or once a month come together to discuss the technigue of the surgical treatment of women and yet none think it necessary to speak of the surgical technique of men? We have

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hundreds of special tables to be used in opening the abdomen of women and so far as I know not one devised for opening the abdomen of men."

Dr. Joe Price says in speaking of opium before, during and after abdominal operations. "I insist that it is thrice harmful; first, last and all the time, I see nothing but mischief and harm come from its use. I insist that the abdominal surgeon who does not know how to get along without opium has not yet learned how to manage his cases. The use of opium favors mortality."

W. B. D.

Ligation of the Uterine Arteries.—The subject of the ligation of the uterine arteries for the cure of fibro-myomatous tumors of the uterus seems to have attracted the attention of some Eastern gynecologists as evidenced by the following paper read by Dr. Herman J. Boldt, Professor of Gynecology in the Post-graduate Medical School New York, before the New York Obstetrical Society, and which we think is of sufficient importance to print in full. He says:

"Inasmuch as abdominal section for the removal of a fibro-myomatous uterus is still a dangerous procedure, despite the good results obtained by a few operators during the past two or three years, any form of treatment, operative or otherwise, which is devoid of danger should be welcomed and given a trial if it is based upon scientific investigation, and especially if it has already shown good results. In ligation of the uterine arteries we have such an operation. The credit of bringing the plan to the notice of the profession is claimed by Sigmund Gottschalk, of Berlin, but it is due to an American. Dr. W. B. Dorsett (St. Louis *Courier of Medicine*, August, 1890) first proposed the plan, and the credit of priority, if any is due, belongs to him alone. Unfortunately, this idea was not placed in the colums of a leading gynecological journal, or our German confreres would have gained some time in putting it in execution.

Dorsett's reasons for the proposition were based upon sound anatomical facts, therefore he has a right to claim priority. On the other hand, Gottschalk, in his paper On the Histogenesis and Etiology of Uterine Fibromyomata, read before the First International Gynecological Congress, September 16, 1892, bases his reasons for performing the operation on carefully conducted histological researches. His conclusion that the neoplasms have an irritative origin must as yet be considered somewhat hypothetical; yet the ground taken by him proved, to a great extent, correct when the plan was practically carried out. His reasoning, based upon his histological studies, led him to tie the uterine arteries to relieve the symptoms produced by the neoplasm, and the result was a happy one.

Following Gottschalk, Franklin H. Martin, of Chicago, did the same operation under the term Ligation of Portion of the Broad Ligaments. Martin's idea is quite correct, so far as the effect of cutting off the blood supply goes, and corroborates both of the previous writers, Dorsett and Gottschalk; but he is surely in error to suppose that the ligation of non-vascular parts of the broad ligament will have any affect upon the tumor. His paper, from beginning to end, as well as the narration of his cases, shows plainly that he also considers cutting off the blood supply as of main importance. It it much easier to ligate en masse than to pick out the vessels and tie them separately, as Dorsett, Gottschalk, and Kustner prefer, so that from a practical standpoint I adopt the views of Martin—viz., to ligate en masse.

The following case is the only one in which I have tried this method: Marie K., thirty-four years of age, and married for seven years. She had one abortion four years after marriage, at the eighth month of gestation. The symptoms which led the patient to seek advice in my clinic were profuse and prolonged menstruation. The flow lasted from six to ten days, with only two to three weeks' intermission. For the previous six months she had suffered from constipation and backache. The symptoms had existed for a year, but were only prominent during the time noted, when they had gradually been increasing. A fibro-myoma the size of a large hen's egg was diagnosticated on the posterior wall of the uterus. Considering the histogenesis of fibro myomata advanced by Gottschalk perfectly rational, I followed the example of that author and tied the uterine arteries of both sides, but made a slight variation in the technique. The patient was prepared and placed in the dorsal position, as for vaginal hysterectomy. The fibro-myomatous uterus was pulled down as low as possible with a volsella forceps and the cul-de-sac of Douglas opened, so as to allow the index finger to be used as a guide in order that the uterine artery should be included in the ligature. The vaginal mucous membrane on either side was also cut. After the vessels had been ligated the opening in the cul-de sac was closed, as was also the lateral incision into the mucosa.

It is now more than eight months since the operation, and when I examined the patient five or six weeks ago I could find no evidence of the growth. The symptoms due to the neoplasm—viz., bleeding and backache—have disappeared. The constipation I regard as habitual. The menstrual period following the operation was not at all to be compared to the previous periods. The flow now lasts only three or four days, and the woman does not lose more blood than she did several years ago.

In addition to my case, good results were obtained by Gottschalk, Kustner, and Franklin H. Martin. Martin was seemingly the first to put the treatment into practice for fibro myomata in this country. In his article, which appeared a few days after I had operated, he does not state the size of the growth, and it would seem from the descriptions that they were the larger sized tumors. If my supposition of Martin's cases be correct, more has been gained by the introduction of this operative measure than at first thought Gottschalk proposed it only for very small tumors. I see no reason, however, why it may not be applied to larger tumors, because there is seemingly no danger—certainly not more than there is

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in a curetting. There can not be the same objection to tying the vasa uterina as there is to the removal of the appendages, because no abdominal section is made, and the operetion does not confine the patient to bed for more than two or three days. If after two months it is found that there is no amelioration of the symptoms, hysterectomy can and should be resorted to. Failure may result from the establishment of the collateral circulation, yet the fortunate results so far attained justify us in making further trials in suitable cases. I should not, of course, advocate the method in tumors which are very large, or in pedunculated growths, etc. I would limit the application of the method to tumors which do not reach a size larger than sufficient to extend two to three fingers' breadth above the symphysis. Suppurative disease of the adnexa is a contraindication to the operation."

In the discussion following the reading of the paper the writer was supported by Edebohls who, never having had practical experience with the subject, was willing to be convinced as to the value of the procedure.

Dr Polk stated that he had had no experience with the operation, but thought the proceedure in the right direction.

No one seems to doubt the fact that the uterine arteries can be easily ligated and the conservative men of to day will soon appreciate the fact that in this proceedure we have a valuable substitute for laparotomy.

W. B. D.

A Discussion on Hysterectomy for Prolapsus Uteri.—This subject has been lately discussed in the surgical societies by MM. Schwartz, Routier LeDenter, Segoud, Richelot, Reclus and others.

M. Bentley has, on one occasion only, performed a hysterectomy for a prolapsed uterus. In this case he said that it was his intention in the beginning to only amputate the elongated neck and do a colpo-perineorraphy, but when this had been accomplished he discovered so little of the fundus remaining that he decided to continue and remove all. In this case recovery was rapid, nothing having been heard of her since she left the hospital.

The speaker believed that in all aggravated cases of prolapse excision of the uterus was to be preferred to other palliative measures. He had 160 cases of a minor degree of prolapse in which, by cervical amputation and perineal operation, he had succeeded in producing a permanent cure.

Indications for ablation of the uterus were those in which there were neoplastic or pyoplastic formations in the uterus, broad ligament or ovary, which crowded down the uterus; in fact, when prolapsed was but secondary and consecutive to the uterine displacement.

He regarded the pathological change in the anterior vaginal wall as an important etiological factor when the uterus was anteverted, and it came down through a laxity of structures.

Therefore, in many cases a simple antero-posterior colporraphy alone, by diminishing the diameter of the vaginal outlet, effected a cure. But in this class it was necessary to always vivify an extensive surface and use the Florentine silk or silver as suture, with a view of keeping the parts well and permanently adjusted until union was complete, and a solid cicatrix was formed.

The author condemned Alexander's operation for treatment of this class of cases.

M. Pozzi stated that he regarded a hysterectomy as an operation which was seldom justified until the other means and simple measures were faithfully tried, Colpo perineorraphy was the ideal measure for these cases, which, when propely performed, would always succeed, except in very rare and exceptional cases of genital prolapse.

Hysterectomy was not justified in cases where the patient suffered from serious organic disease.

M. Picque declared that in his experience hysterectomy for prolapse, in old women, was very unsatisfactory and was frequently followed by troublesome hernia. His preference was the Alexander operation.

M. Chaput had seen two cases treated by hysterectomy which were promptly followed by hernia. As prolapse was essentially a vulvar hernia it was an irrational procedure to remove the uterus, as the ob-object to be obtained was to solidly close the vagina.

The dangers of hysterectomy are always great and should not be invoked in any except extreme cases.

M. Depres declared that, as it appeared from the drift of the discussion there was no operation without its failures, we must conclude that there are many cases of uterine prolapse incurable by any method.

The only complication that can ever justify a hysterectomy was when the uterus could not be reduced; something which was rarely seen.—*Revue Therapeutique; Times and Register.*

Treatment of Fibroma of the Uterus by Electricity.—At the seventh French Surgical Congress, held April, 1893, Drs Bergonie and Boursier, of Bordeaux (*Bull. Gen. de Therapeutique; Aannals of Gyn. and Ped.*)read a paper on the above-named subject, based on over two hundred cases, but the authors eliminated about one hundred of them, because the length of time that had elapsed since the treatment had ceased was not sufficiently long to be of value as to the final result.

The treatment was only employed for pure fibroma and myoma of the uterus.

The method of applying the electricity was as follows: To the positive pole was attached a sound of carbon, which was introduced into the cavity of the uterus, while a large, indifferent, abdominal electrode connected with the negative pole was placed on the abdomen. The intensity of the current varied from 25 to 150 milliamperes, and the duration of each seance was about ten minutes. The followed results are based on 100 cases which were exactly alike as to diagnosis

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and treatment. Of these 100 cases, 64 were voluminous fibroma, and of these, 7 were reduced in size, 90 were fibroma with hemorrhages, and 81 of these cases were relieved or ameliorated of these symptoms; 41 cases had pain, of which 22 were improved or cured by the treatment, and, lastly, in 65 cases the poor general condition of the patient was improved.

The conclusions are that this method of treatment is especially efficacious in cases of hemorrhagic fibroma, acting favorably on the general condition and on the pain; and lastly, it has rarely reduced the size of the tumor.

Suppurated Salpingitis Cured by One Vaginal Puncture.—This was the title of a paper read by Dr. Delegrange (*Nouvells Archives d'obstetrique et de Gynecologie; Annals of Gyn. and Ped.*) at the March meeting of the Anatomo-Clinic Society of Lille. The patient was a strong, unmarried nullipara, aged 27; had never had veneral disease of any kind; her menstruation had been normal until about three years ago. The abdomen was not increased in size, but palpation revealed just about the pubis a deeply situated tumor which reached several finger-breadths to this bone. This tumor was painful on pressure, and appeared to be quite hard. Percussion was negative. Vaginal examination gave the following: The cervix was conic, small, and situated just behind the pubis; just beyond the vulva the hand came upon a mass, which not only filled the posterior vaginal cul-de-sac, but appeared to be enclosed in the lower pelvis; by bimanual palpation it was found that the tumor extended on both sides toward the broad ligament, especially on the right, and connected with the mass felt behind the pubis, making its size about that of a fetus at term; the tumor was hard to the feel, not so much, however, as a fibroma. To make a sure diagnosis, an aseptic aspiration was made with Potain's instrument, and a litre of pus was withdrawn. Palpation and vaginal examination showed that the tumor had disappeared, but the uterus seemed immovable, deviated slightly to be left; there was also a hard tissue in the posterior cul-de-sac, probably the walls of the pus-cavity. The patient made a good recovery, and was heard from three months later as being perfectly strong and well.

Treatment of Chronic Cervical Endometritis in Nullipara.—At a meeting in Feb., 1893, of the Surgical Society of Paris, Dr Bouilly spoke on this subject (*Annals of Gyn. and Ped.*). The author wished that it be understood that he only was speaking of chronic endometritis as met with in a young women who had never had children, and, consequently had neither tear nor sclero hystic degeneration of the uterus. In these subjects the cavity of the cervix is narrow, and the secretions are retained. Women who have sticky, viscous discharges are sterile, but suffer little, having only a feeling of weight in the pelvis. The author thought that perhaps gonorrhea was the cause. As curetting the uterus and topical applications always fail, and as Schroeder's operation is too complicated for so small a lesion, the author proposes the following operation: He commences by dilating the uterus for two days, after which he washed out the cavity, and curettes the uterine cavity, the upper and lower lips of the organ are fixed by forceps, and the operation proper is commenced. With a long narrow-bladed bistoury a flap two, three, or four millimetres thick, according to the thickness of the tissue, is removed from the demi circumference of each lip. The mucus is thus abraded so as to form two excavations with their cavity opposed to each other; the mucus on the sides of the cervix is carefully preserved, as it is necessary for the regeneration of this tissue. The external orifice is widely opened, and the cavity of cervix is stuffed with iodoform gauze. The author has performed this operation forty times with only one failure, and twice conception has taken place in women who had been sterile for a long time. As little hemorrhages have taken place after operation was completed, the packing with the gauze should be carefully done.

SURGERY.

A Case of Torticollis Following the Removal of Adenoids of the Rhino-Pharynx, with Remarks on Nasal Reflexes.—Dr. C. H. Knight read a paper with this title before the New York Academy of Medicine, Feburary 14, 1894.

Among the cases of genuine nasal reflexes may be mentioned bronchial asthma associated with nasal myxomata, yet we do not accept the view of some modern observers that all or even a large proprotion of cases of asthma are due to some deformity or disease of the nasal fossæ. The number of authentic cases of rhino-pharyngeal reflexes has now become quite large. A good example of such reflex is to be found in a case reported by Casselberry in 1893, of laryngal spasm excited by the application of a strong spray to the vault of the pharynx. The patient was a girl of fifteen years, with enlarged faucial and pharyngeal tonsils. On a subsequent occasion the passage of a probe into the rhino pharynx induced a spasm so violent and plolonged that unconsciousness supervened, and tracheotmy was contemplated. In a paper on 'Chorea Minor from Naso-pharyngeal Reflex" Jacobi gives a characteristic picture of lymphoid hypertrophy in the vault of the pharynx as an exciting cause of various muscular anomalies. In one of the cases of reflex cough reported by Herring, of Warsaw, torticollis and painful spasm of the muscles of the neck succeeded immediately upon electric cauterization of the pharyngeal wall. The muscular disturbances persisted for nine days, and ceased only with the cicatrization of the wounds. In this case the traumatism was inflicted upon the pharyngeal wall rather than in the vault of the pharynx. Two years ago

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I performed adenotomy on a little girl who was subject to frequent and alarming attacks of glottic spasm. Since the operation there have been only two very moderate attacks. In the paper read before the American Laryngological Association in 1889, J. N. Mackenzie expresses the opinion that the nasal pharynx in quite a large proportion of individuals is exceedingly sensitive to reflex producing stimulation, and that the areas chiefly involved are the posterior ends of the turbinated bodies and the upper and posterior portions of the cavity. All authorities who take any notice of the matter concur in the opinion that adenoid hypertrophy in the vault of the pharynx may be the exciting cause of reflex disturbance in the larynx and elsewhere.

The case that I am about to describe is the first of its kind in my own experience, and I have been unable to discover a precisely similar one on record. The patient was a girl, nine years of age, who had been a mouth-breather since an attack of measles, eighteen months before. She had had frequent attacks of earache and the hearing was decidedly impaired. When seen last October, her general condition was very bad, but nasal occlusion was so complete that immediate operation was felt to be imperative. She was etherized and three scrapings were done by Dr. McKernon, with the Gottstein curette, the first two of vaults, and the last of the posterior wall of the pharynx. No unusual force was employed, and only an average amount of blood was lost. Twenty hours after the operation it was noticed that she carried her head with the face toward the right shoulder, and it was found that she was unable to move it back. Forced rotation and flexion of the head were painless, but extension was painful and a sensitive point was discovered just to the left of the cervical vertebræ. There was no perceptible rigidity of the superficial muscles of the neck, anteriorly or posteriorly. The child looked sick and refused to eat. Forty-eight hours after the operation, examination showed the surface of the wound sloughy, and its margins angry and swollen, particularly below and to the right, where there appeared to be a mass of partially everted mucous membrane or lymphoid tissue. She began to improve within twenty-four hours, and in the course of ten days the rigidity of the head and the traces of the pharyngeal operation had disappeared, and the improvement in her general condition was most marked. In short, a rather dull child had been converted into a bright and attractive one by this simple operation. After some study of the case it became clear that the post operative symptoms were indicative of a simple condition of tonic muscular spasm. There seemed to be three ways in which the train of symptoms occurring in this case might have been produced, viz:

1. By an actual wound of the rectus muscle.
2. By a contusion of the muscle from extraordinary pressure in curetting.
3. By a lesion of the nerve filaments in the mucous membrane resulting in a reflex irritation of the muscular fibers engaged in rotation of the head.

The first may be excluded by the behavior of the wound, and by the appearances on completion of repair. The second may be eliminated on the testimony of an experienced and careful operator, who disclaims the use of extraordinary force. The third seems to give a satisfactory interpretation of the symptoms. The occurrence of torticollis as a sequel of adenotomy may perhaps be avoided by bearing in mind that as we descend the posterior pharyngeal wall, the layer of lymphoid hyperplasia becomes thinner, and that therefore these so called vegetations may be removed by a relatively superficial use of the forceps or curette in that situation. I recommend ploughing up from below the lymphoid tissue in this situation with the fore-finger nail before the application of the instrument. By this method we can not only exactly estimate the amount of force required, but we can remove large portions in each grasp of the forceps. In conclusion, I would call attention to fact that the scanty testimomy in our possession would seem to indicate that the posterior wall rather than the vault of the rhino-pharnyx is the site whence these motor disturbances emanate.

Specific Treatment of Enteric Fever.—E. Fraenkel (*Deut. Med. Woch.; Med. Record*), says that at present there is no longer any doubt that enteric fever is produced by Ebert's bacillus. He then refers to experiments which have shown that animals could be made immune against this infection by the injection of typhoid cultures heated up to 60° R. The author was then led to try a similar treatment in man. Typhoid cultures were heated up to 63°, and their complete sterility proved by experiment. The injection was made at first into the subcutaneous tissue of the iliac region with every precaution. Subsequently it was found more convenient to inject into the glutei muscles, and in this way it never became necessary to interrupt the treatment. Of fifty-seven cases of enteric fever thus treated, twelve were severe, the rest being of moderate severity. On the first day 0.5 c.c. were injected, and no change was noticed in the condition of the patient. On the next day 1 c.c. was given. This was followed by a distinct rise of temperature, with slight shivering. On the third day the temperature fell, and twenty-four hours later there was a further drop. If the treatment was stopped the temperature again rose, so that 2 c.c. were administered with similar results as before. The course of the temperature determined the further treatment. If there was no rise injections were given at two days' interval, the dose being increased each time by 1 c.c. The fever lost its continued character and became intermittent, and in a short time there was complete apyrexia. Along with the fall of temperature there was profuse sweating and copious diuresis. The diarrhea mostly ceased. The patients appeared to be convalescent while rose spots and enlargement of the spleen were still present. Feeding could be proceeded with more quickly, and fourteen to sixteen days after defervescence the patient was able to get up. Complications

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and relapses could not be avoided, but the treatment was efficient in the relapse. This treatment secures a rapidity and uniformity in the course of the disease not hitherto observed. Rumpf (*Ibid.*) says that the question arises whether similar results may be obtained by the use of sterile cultures of a micro-organism having nothing to do with disease. Cultures of the streptococcus was used at first, but ultimately the *B.* pyocyaneus, as having slight or no pathogenic properties. Typhoid cultures were heated up to 62°, and 0.5 c.c. were injected as above, when a slight rise of temperature occurred. The rise was also noted on the second day, but on the third it was inconsiderable. More often, and especially in severe cases, 1 c.c. was given on the second day, and then forty-eight hours were allowed to elapse. The temperature soon fell, and the pulse and condition of the patient improved greatly. If the injections were discontinued he fell back again. If the temperature did not fall, 2 c.c. were given on the fourth, 4 on the sixth, and 6 on the eight day. No ill effects were noted, or, at most a little shivering. In six to eight days the fever and other symptoms had disappeared, and convalesence was rapid. Sometimes a relapse occured; when the same treatment was also effective. In thirty cases there were two deaths, one from hemorrhage and one from pneumonia.

A New Method of Examining the Kidney, Especially for Stone.—At a recent meeting of the Philadelphia County Medical Society, Dr. Charles P. Noble reported the case of a woman, 37 years old, in which the kidney, its pelvis, and perhaps an inch of the ureter, were examined through an exploratory incision in the loin (*Med. News*). During a period of six years there had been three attacks of hematuria, accompanied with "renal colic," good-sized stones being passed on two occasions, and the last coming from the left kidney. There had been, besides, milder attacks of paroxysmal pain referred to the right inguinal region, the pain being perhaps most acute just above the greater trochanter of the right femur.

These attacks had become of daily occurrance, and were brought on when the woman was on her feet. She was usually, though not always, comfortable when in bed, but the pains came on shortly after attempts at walking. The sexual organs were normal, with the exception of a trifling tear in the perineum. The urine was examined many times, and had a very uniform composition. Its specific gravity varied between 1013 and 1020, and the rection was acid; it contained pus, vesical and ureteral epithelium, but none from the pelvis of the kidney. The urine from each kidney was examined separately, being obtained by means of the ureteral catheter, and was found much the same, the pathologic elements being somewhat more numerous on the right side. The urine from the left kidney always flowed through the uretheral catheter freely and regularly; that from the right kidney did not. Upon two occasions the ureteral catheter remained in position upon the right side upward of twenty minutes, and not more than one or two drops of urine flowed out. Upon another occasion, after waiting thirty minutes with the same result, suddenly 120 minims poured out.

The conclusion was reached that there was a stone in the pelvis of the right kidney. Several attempts were made to pass a ureteral sound along the ureter toward the kidney, but it was not possible to make the sound reach above the brim of the pelvis. It was therefore proposed that an incision be made in the loin for the purpose of exumining the kidney and the upper portion of the ureter from above

Accordingly the usual incision in the loin was made down to and through the peri-renal fat, exposing the lower end of the kidney. With the index finger the kidney was then separated from its connective-tissue attachments and gradually drawn down into and out through the wound, so that it was entirely outside. It was now a very simple matter to explore the kidney by thumb-and-finger pressure, and to make certain that it was in a normal condition. It was equally easy to examine the pelvis of the kidney and to determine that this contained no stone. Perhaps one inch of the ureter also was within reach.

As nothing abnormal could be felt, the kidney was replaced within the abdomen and the incision was sutured in the usual way—buried silkworm-gut sutures being placed in the muscular layer, and superficial silkworm-gut sutures in the skin. No unfavorable reaction followed this operation, and so far as the operation itself was concerned the patient made an uninterrupted recovery. Unfortunatedly the operation produced no effect whatever on the symptoms.

The opinion is expressed that it should be a simple and safe matter in the hands of a skillful surgeon, who has had some experience in kidney-work, to remove through an incision in the loin all non suppurating kidneys having approximately the normal size, for the purpose of a careful examination. The procedure is certainly not one of much gravity, and when done under the conditions laid down should have no mortality. Tentatively the adoption of this method of exploring the kidney is recommended whenever the symptoms point to the presence of stone in the kidney or its pelvis, and when these symptoms are of sufficient gravity to invalid the patient.

Upon theoretic grounds this procedure would not be applicable in cases of abscess of the kidney. Under these conditions the kidney would supposedly be fixed and not easily separated from its connective tissue-bed. Moreover, it would be enlarged, and in addition to this there would be the risk of rupturing the pus-sac, perhaps into the peritoneal cavity.

A New Medical Journal.—*Louisville Medical Monthly* is the name of the new journal, published by the Louisville Medical Journal Company and edited by Drs. James B. Steedman and George M. Warner.

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NOTES AND ITEMS

The Harvard Medical School.—This school is the recipient of a bequest, valued at $50,000, under the will of the late Rev Charles Moseley, of Newburyport.

Registration of Tuberculosis. The State Board of Health and Bureau of Vital Statistics of Washington, at its recent annual meeting, passed an order requiring physicians practicing within the State to report all cases of pulmonary tuberculosis.

No attempt will be made at isolation, but a printed circular containing full directions for the sanitary care of such patients will be sent out by the Board for the guidance of the persons having them in charge.

Dr. J. H. Ford of Wabash, Ind., has been appointed chief surgeon of the "Big Four" Railroad system. It is the intention to establish a hospital system like that on the Wabash and Missouri Pacific Roads. Dr. Ford will have jurisdiction over the "Big Four" and the Peoria & Eastern. It is the intention to erect a large hospital at Indianapolis to accommodate the divisions centering there, and to establish a hospital in every other division if the employes are favorable.

The Charites of London.—According to the nineteenth annual "Directory to Metropolitan Charities," over $27,000,000 are spent in a year in carrying on the work of 759 societies and institutions. Of these latter there are 206 in which the medical profession is interested. Their respective number and object, together with their income stated in English values, are given in the following paragraph:

"Twenty-five charities for the blind, £74,299; seven charities for deaf and dumb, £20,565; five charities for incurables, £51,527; two charities for idiots, £59,165 —£205,556. Sixteen general hospitals, £351,247; eight consumption hospitals, £70,235; five ophthalmic £15,876; three orthopedic hospitals, £5,462; five skin hospitals, £8,487; sixteen hospitals for women and children, £88,825; four lying-in hospitals, £13,942; twenty-nine miscellaneous special hospitals, £119,884 —£673,958. Twenty-nine general dispensaries, £29–083; thirteen provident dispensaries, £9,321; six institutions for surgical appliances, £38,599; twenty-six convalescent instutions, £64,449; seven nursing institutions, £11,708—£153,160."

The orphan asylums, diet dispensaries, and homes for aged persons are not included in the summary above given, but their income is very liberal and they are fully a hundred in number.

Yellow Fever Spreading at Rio.—A cable from London bearing date March 7, says Captain John Piper who succeeded Captain Lang as senior officer of the British fleet at Rio Janeiro, cabled to the Government to-day that yellow fever is spreading in the city. He recommends that all vessels be withdrawn from the entire harbor and that the port be closed. Advices from Rio Janeiro of March 9, state that all the foreign vessels of war have left the harbor, with the exception of Admial Benham.

A Curious Phase of Professional Jealousy.—In this city it is not uncommon for two physicians to occupy the same house. In Western cities, a number of physicians sometimes occupy neighboring rooms in the same building. Contiguity is considered helpful rather than otherwise. But they do things differently in France. The Paris correspondent of *The Lancet* writes: "The tradition which sanctions the refusal of a French landlord to let rooms in his house to two persons pursuing identical or analogous callings, does not apparently extend to the medical profession. Those who, like myself, have acquired experience of apartment-hunting in Paris will know that, as a matter of fact, the presence of a confrere in any house constitutes almost invariably a bar to his own entrance therein; but that a landlord is within his right in 'taking in' two practitioners and even letting to them rooms on the same floor, is proved by a judgment recently delivered by the Fifth Chamber of the Civic Tribune of the Seine. Dr. S. objected to the proximity of a new arrival, Dr. R., and the intervention of the Syndicate of Doctors of the Department of the Seine, made at the request of Dr. S., having failed to induce Dr. R to abandon his intention of taking the rooms, Dr. S sued his landlord for 10,000 francs damages, basing his action on the latter's verbal promise not to admit another practitioner into the same house. Seeing that the lease held by Dr. S. contained no clause to that effect, the court non suited the complainent. Apropos of practitioners' residences, it may not be generally known that there exist in Paris no such 'doctors' streets' as, for example, Wimpole Street and Harley Street. Paris practitioners are not a gregarious class, and professional jealousy is, unfortunately, a not unknown quality."—*Med. Rec.*

The Press, the Quacks, and the Public.—An address on this subject was delivered on Saturday evening at Toynbee Hall, E. C., by Mr. Ernest Hart. After referring in a general way to the growing power of the press, its accumulating responsibilities, and the admirable manner in which on the whole they were fulfilled, Mr Hart turned to certain phases of journalistic responsibility which more especially came under his notice as a medical editor. He cited a considerable number of instances in which untold harm was effected at the present moment by the facility with which a considerable number of journals of high position and large circulation placed their columns at the disposal of a large class of persons who habitually practised open falsehood and palpable deceit, and worked untold harm among the more credulous sections of their readers. The vast circulation of the daily and weekly press, growing in importance, made this subject one of daily increasing

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moment, and he openly and directly charged a large proportion of the newspaper press of this country with sacrificing their duity, the honor of their calling and the public interest to the inducements of palpable quacks and venders of either dangerous or insidious wares, offered at preposterous prices under palpably false pretences. The health of the people was being underminded, their morals were being sapped, and they were being robbed wholesale by unscrupulous venders of secret medicines; worse than this, a great proportion of religous papers and provincial papers sold their columns to persons who openly traded upon the weaknesses, the sins, and the fears of the married and unmarried of both sexes. The quack and patent medicine impostor of olden times had a limited sphere of mischief; he had his cart or his stall in the market-place, and for the most part he was more ridiculous than harmful, but now limited companies were formed, syndicates were established, and great financial operations were undertaken to carry out an extensive system of preying upon the public with the aid of the vast publicity sold by the newspapers. Mr. Earnest Hart then read correspondence which he had with the managers of some of the leading newspapers, in which some of them had frankly recognized their responsibilities in the matter, and described the precautions by which they protected their advertising columns from becoming the medium of such wholesale deceptions of the public. He referred, however, to the details of the Harness system of advertising, and to the advertisements and editorial puffs afforded quite recently to dangerous adventures, free-lances in irregular medicine, and spoke of the career of the Anna Rupert skin-lotions and to some of the results of the public medical lectures,freely reported in the daily papers. He asked that something of the same censorship should be exercised over the advertisements and editorials in the papers in dealing with medical matters as was admittedly exercied in ordinary advertisements relating to law, to commerce, and financial affairs. Advertisements putting forth evidently unfounded and impossible state ments as to banking, or lotteries, or giving racing tips or gambling incitements, were not admitted into respectable papers. Why should the monstrous, dangerous, and palpably false statements and delusive promises put forward by the exploiters of secret medicines be alone accorded the unrestricted publicity of newspapers great and small? Mr. Hart proceeded to say that the worse offenders were papers often full of religous pretension and social philanthropy. The evening papers, even in London, were great offenders, and the Sunday papers, from some of which he read extracts. Some Sunday and evening papers of the metropolis were setting the abominable example of publishing the monstrous statements of the quack advertiser as editorial articles in ordinary type. This was sinking to a lower depth of degradation than was customary, even in the lower types of British journalism, and was quite unworthy of papers having otherwise many claims to consideration.—*Brit. Med. Journ.*

RAILROAD : NEWS

American Medical Association Meeting, San Francisco, June 6-8, 1894.

Delegates to the American Medical Association meeting to be held in San Francisco, June 6-8, 1894, in selecting a route to the Pacific Coast, should not overlook the superior advantages offered by the Denver & Rio Grande Railroad.

This Railroad is not surpassed in any respect by any of the transcontinental lines, and in the manner of scenery it has no equal. The "Scenic Line of the World" operates Pullman and Tourist cars between Denver and San Francisco and Los Angeles.

On all Mid-Winter Fair and nine months tourist tickets, the Denver & Rio Grande allow stop-overs, thus enabling the tourist to visit at the noted Health and Pleasure Resorts along the line in Colorado and Utah, the most noted of which are Colorado Springs, Manitou, Glenwood Springs and Salt Lake City.

Pamphlets descriptive of the beautiful scenery on this line and full particulars, can be obtained by addressing S. K. Hooper, G. P. and T. A., Denver, Col.

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E. B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

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MEDICAL REVIEW.

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ORIGINAL ARTICLES

The Basis of Personality and the Responsibility of Criminials—A Discussion of the Paranoiac Murderer and the Rapist.

BY PAUL PAQUIN, M.D.

Read before the St. Louis Medical Society, March 31, 1894.

Civilization is in constant dread of the many moral abominations that so often shake the very foundations of society. The soul of man is thrilled every day by some diabolical crime that only a human beast could conceive of and execute. Persons and virtue are daily assailed, outraged, by thousands of dangerous beings, whose horrible deeds are but rarely forced from the quagmire of pollution to public notice. When this occurs, every breast swells with true or pretended indignation, the hearts of honest men beat sorrow and humiliation, and a wave of fierce and even murderous protest rises to gigantic proportions in society, subsiding shortly afterwards, leaving more than an indifferent recollection of the repulsive effect. Little is thought of the downward course of humanity which these social riots indicate. The world goes on as ever; the stage of human activities and infirmities, the panoramic display of contradiction, ambition, disappointment, desire, satisfaction, regret, pleasure, grief, virtue, vice, the intensity of which conditions reach the acme of acuteness in individuals as they advance in civilization, only to topple over or break down by degeneration, to make room for the army of other fools behind. After ages of the influence of civilization, religion, society, all of them adjudged refining, the world is dealing with more desperate social ills than ever. In some quarters of the globe, the people are grappling hopelessly with the fury of crimes, horrid beyond description. The very foundation of the social world, yea, even the pillars of the circles among whom the public servants of the law are chosen, the pillars of the select polite society, which derives its inspiration beneath the roofs of church edifices whose spires rise proudly skyward as in symbolism of their heavenly origin, the pillars of commerce, politics, social ethics, seem to be crumbling from the effects of mental and moral decay. The penitentiaries and asylums are full to overflowing of culprits; the free world is replete with secret and acknowledged criminals, enjoying the liberty of sound and honest humanity. Indeed, many nations, considered in their entity, seem to have reached the point where human progress must halt and retrogression begin in the individual character of their respective aggregate elements. Judged by the past ages, the present mad rush of commercialism in life, the terrific jostling and conflicts of the masses to acquire wealth and position quickly and at all hazards, the criminally careless conduct of mankind in contracting marriages and rearing children, the feverish, desperate, venturesome life of men in all careers, there seems no other fate for the world than its self extermination in insanity and crime. In ten hundred years or less, the civilized earth will be a gigantic lunatic asylum, unless by some unheard of effect of all the powers of God, man and nature, the reform of character begins soon and is carried on widely on scientific lines. Science is our only hope. It may be aided, but without it certain reforms are impossible. It knows the secret of insanity and of the crimes due to anthropological and psychological factors; it offers the plank of salvation from cataclysm, but the nations heed not; they are plunging blindly into the uncertain future with rabid excitement.

Anthropology, in recent years, has done work of much importance, tending to establish, more solidly than hitherto, the basis of personality. It has made possible several clear and concise deductions of moment bearing on criminality, and physiology has revealed numerous hitherto unknown conditions which explain normal and abnormal psychical phenomena of human nature,

The old narrow notion, that only grooved alienists can judge properly of sanity and insanity, is giving way to the logical reasoning of the comprehensive physiologists and psycologists. The metaphysical idea of character, so long accepted by the medical profession, which even now forms the basis of reasoning, or rather of errors of a few neurologists of reputation, is at last vanishing under the ever conquering forces of science. No longer do earnest, studious, reasonable men consider individual character as a special, individual, definite gift from heaven, which drops into men's physique at conception or at birth. It is understood now that personality is always inherited and acquired.

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Insanity is a disease of personality; therefore, to establish the nature and responsibility of certain criminals, the first thing necessary is to explain the cause and basis of normal character and the conditions that may alter it. Consequently, the all-important question to solve before one can arrive at a proper understanding of criminality, is, what is character.

The usual definition of character is faulty. It considers only qualities and leaves out defects. Character is the sum of good and bad traits of the individual. It includes every characteristic, good, bad and indifferent. It is personality itself. The various morbid phenomena exhibited by the insane in all stages and degrees, are the symptoms of the affection, or, in other words the manifestetions of personal organic activities.

The personality of one arises primarily from within and becomes influenced, more or less, by condition from without, for man is born with a physique in which exist, not only the foundation for character, but character itself (in a latent form if you please) as far as inheritance transmits it. The development of all the various attributes is a matter of individual evolution, subject to the numerous influences of environment, over many of which individuals, as such, have no control. A good evidence of this fact is the ease with which the character of even the soundest man may be changed by alterations of his physical organization by disease, alcohol, morphine, gourmandizing and other agencies.

All the faculties of man then—physical, mental and moral—rest and depend on a structural basis which, itself, is a living cellular organization, formed of matter decomposable into chemical substances. This is the basis of personality. The property of a voluntary muscle to contract at will, as the biceps for instance, is retained wholly in its integrity, only so long as the structural basis of the nervous element presiding over it, and the muscular fibres of the organ itself, remain wholly normal, unchanged, unaltered. A chemical or physiological change in these nerve elements robs them, partly or wholly, of their normal faculty. Just so in the nerve elements forming the basis and constituting the home of volition and the various mental and moral characteristics of man. They too, if changed from the condition whence arise sound personality, or if primarily deficient in the elements necessary to form the basis for sound characteristics, fail to produce sound mental or moral phenomena. Indeed, even reflex action upon them may cause man to evidence unsoundness, at least of a temporary character.

The true natural mental and moral characteristics of an individual are not of his free choosing, except in so far as the will and moral sense may be capable of control and direction in life; birth brings from antecedents a certain basis from which they natnrally arise, very much as the physical faculties develop. But, like the latter, they may be trained, cultivated, voluntarily altered to a certain degree. A man naturally acquires the power to walk and talk, but he becomes an athlete or an accomplished orator only by training, if there is a physiological basis for the process. Just so the mentality may be developed and a mortality exalted in an individual, provided there exists a structural basis for the task imposed. An atrophied muscle could not become athletic, nor could a narcotized brain increase its previous mental and normal faculties; on the contrary, in both, physical deterioration results in lame activities. In other words, the personality of one is the sum total of his mental and moral exhibition; it is the outward manifestation of the internal co-operative forces of the countless myriads of individual living cells forming the body; it can be maintained in its integrity, only so long as the basis thereof remains intact; the moment the latter is changed, the character changes as a necessary consequence, we are to understand then, that whatever may be the obscure thing which is termed the essence of life, it is located in the organic tissues by inheritance, and these tissues are a necessary part of its manifestations and phenomena. Thought, will, knowledge, the sense of right, wrong, the feelings of passion, no less than the visible exhibits of human forces, are dependent on various living cells of the organization, which, by processes of evolution, have become charged with and capable of performing special labors and duties.

From the very moment of conception, the formation of character begins. The first cells of the embryo carry with them, even before their generative union, the virtues and sins of the father, mother and ancestors, and then the various good and bad impressions of the mother during gestation add to the pre-natal influences on the developing physique and personality. Drunkards, for instance, impart to their offspring a structure fit for the development of the unfortunate disease, a mentality incapable often of resisting alcohol, and a morality so inferior that it sometimes barely recognizes the difference between right and wrong on certain subjects. The balancing of bad traits depends on the possession of good ones, will power, etc.

The transmissions of characteristics by inheritance is not so mysterious as it appears. Even cells have a certain degree of individual intelligence, and the small generative cells obviously possess striking psychical properties; they have intelligence sufficient to inspire them and guide them in their crawl and search through a tortuous and impeded channel, for the affinity necessary for the beginning and generation of a new being. This fact alone should assure us that cells are pregnant with the nature of man in a condensed form, as it were, and that it only needs physical development by generation to develop all the faculties stored within their minute compass.

Insanity is to the mental and moral, what a disease of the material body is to the physique, and like the latter, it may be temporary, slight, serious, very grave, fatal, etc., according to the nature and gravity of the abnormality of the structural basis of character.

To arrive at a correct diagnosis of the responsibility of a criminal alleged to have been or to be insane, we

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must make, therefore, not only a close study of the symptoms of the individual, but delve deeply into the congenital and atavistic influences, investigate the habits and conditions of the existence of the persons, and establish, if possible, to what degree, if at all, the basis of personality was congenitally deficient or was changed after birth. The responsibility of the criminal is not to be decided exclusively by the nature of his knowledge or his conception of right and wrong, previous, during or after the crime; the chief element for the decision of this point, is the integrity of the elements upon which depends the existence and control of the will, and the particular act under study before and during the crime. Furthermore, one must take into account the nature and force of the passions with reference to the nature and force of volition at all ordinary times, and during any and all special influences on the nervous system.

The idea, prevalent in certain legal and medical quarters, that only such forms of insanity as come within the scope of mental delusions, failure to discern wrong and to understand the consequence of the act, are irresponsible, is not sustained by the advanced scientific revelations of the day. Science demonstrates very clearly, that one may discern, know the consequences of his crime to the extent of realising that the death penalty will inevitably follow, have no delusions, and yet commit ignoble deeds in response to passions or psychical impulses uncontrolable by the will.

What are the conditions of crime without the responsibility of action? They are, in a general sense, all those abnormal conditions of the anthropological and psychical nature of man that render him incapable of resisting suggested or innate impulses, or that make him unconscious of any wrong-doing at the time of the act. If, for instance, any one has a structural defect or a personal abnormality, by which or through which he has no sense of morality, or is incapable of ruling and overcoming the tendencies for bad (which are a part of the nature of all men), he is not responsible for the committing of certain crimes, forced within him by his own cellular activities for which he is not responsible and over which, collectively or individually, he has no positive control.

My object in dealing with the foregoing generalities is, to arrive at the study of two classes of criminals; the murderer and the rapist. These are considered the chief infernal fiends in the world. They are the constant menace of society, and the cause of more outrages, the source of more grief, disgust and indignation than all the other criminals combined.

What murderer is wholly responsible for his act? It is the one whose moral sense and volition was competent at the time, of preventing the act. I admit that this conception makes it exceedingly difficult to draw the differentiating line between the responsible and irresponsible, but this fact should not deter one from stating the justness of the position. The definition does not include the homicide who, sound and sane before, kills in a quarrel, under the influence of anger; by a violent rousing of temper, such individuals seem to become temporarily blind to justice and human feelings, and murder, to repent the next moment. They had knowledge of their will power previous to the act, and how far it could go and be controlled. Their riotous act was not the result of organic deficiency. But we are obliged to recognize that it includes the miserable one, born with a deficient organic basis of character, a character congenitally influenced, lowered morally and mentally by the condition or habits of the parents; that it includes also the alcoholic or opium maniac, although our sentiments of love and justice for those whom these degenerates offend, our feelings of virtue and humanity cry loudly to our hearts against this conception. The theory that a drunkard has arrived at his condition willfully, is not always true; alcoholism is often, at certain stages at least, a real disease, and when the basis for or the tendency to it is inherited, there is no doubt about it being a pathological entity, at a very early stage if not always. Consequently, the unfortunate who suffers from it is more to be pitied than condemned. At certain stages and in certain conditions, the irresponsibility of the alcoholic, irrespective of the origin of the condition, is as positive as that of the man crazed by fever. I make this statement of the facts with regret; I am forced to do it because it is true. And let me say here, that I do not wish to be understood as being a defender of the crimes of the inebriates, or even of being in the slightest degree desirous of condoning the inebriate, I simply desire to mention the scientific grounds for the existence of the condition. Science, truth itself does teach the irresponsibility, occasionally at least, of even the criminal whose temporary or permanent derangement has been acquired by vice of the most detestible and horrifying character, and we must accept the fact, no matter how painful and repulsive to us.

Paranoia is a term very loosely applied to a large number of mental aberrations or deviations due to degenerative conditions. A paranoiac then, is insane, but sometimes to so slight a degree as to preclude the possibility of establishing the existance of the abnormal condition, except under peculiar circumstances. What then shall constitute the basis for the process of reasoning by which the responsibility of alleged paranoiacs shall be established? In my judgment, the responsibility and irresponsibility of such criminals should be considered from the degree of degeneration back of their actions and manifestations. It is therefore, difficult, with our present knowledge of the changes of the organic basis of character, to trace an arbitrary line of demarcation between the two conditions; it is hard to say where one ends and the other begins. It would appear that there must exist a very indefinite intermediate point, where confusion is inevitable. On the other hand, there are occult insanes; while the symptoms and actions of one may positively stamp him as irresponsible at an early age, the behavior of another with equal organic degeneration, may stamp him as sound for a long time, until some occasion shall arise by

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which his failings shall be revealed, or he may be considered sound until death at an advanced period, because nothing in his life had occurred to bear on his defective nerve centers and bring their deficiency into play. No murderer then, with any organic weakness or degeneration, making him a paranoiac, should justly be termed responsible for certain acts dependent on or made imperative by the defect, or unavoidable because of want of control of volition and moral force. The responsibility here rests chiefly on the parents and ancestors and the environments of civilization. The course of life in all civilization has been such as to breed defective physical forces, defective mentalities, to develop and propagate degenerations so comprehensive, that there are, indeed, comparatively few well balanced minds among civilized nations. This is particularly true among the descendants of the third and fourth generations of city-bred and city-reared people, among whom Nature is, more than elsewhere, scoffed at and scorned. City life and influences, through artificial and strained existence, away from Nature's true moral influences, through intemperate cultivation and satisfaction of all the appetites and emotional senses, and the thousand interferences with the laws of Nature in personal life and in the rearing of families, has brought the average man of the populous centers to a standard of pitiful mediocrity mentally and morally. As Max Nordau points out, the majority of young men and women of this class are without discernment, without ideas; they are followers, and many are idiotic, as is evidenced by the personality of the so-called "dudes" and their silly counterpart among girls. Therefore pity and not blame, should be extended to those whose degeneration is advanced beyond that of their fellow mortals who think themselves sound. These are, in fact, also tottering under the flickering forces of a degenerating structural basis of character, and should not seek redress for such crimes of their brethren as are due to degenerative conditions, by the always brutal use of the rope and the guillotine—two barbarous practices unworthy of human nature and christianity under any conditions—but should seek instead the cause, remedy it if possible, even if it should require incarceration for life of every person with proven defective mentality of a serious order, capable by propagation, by generation, or other influences.

To decide on the responsibility of murderous criminals, our judgment should be based on the organic, mental and moral nature of the individual with due regard to the laws of inheritance, realizing that man is, after all, an aggregation of cells with individual life, a "republic" of minute beings with individual attributes and psychical properties whose joint action reveal the personality of the body. If it were the province of this paper to moralize on this question, I should say that the very civilization which is now killing and imprisoning paranoiacs, is often more guilty toward them and society than these unfortunates are towards the law of the land and the people, because civilization has produced them as we find them to-day.

I now come to the class of criminals which arouses sickening disgust in the heart of every true man and woman, and impresses seriously even those whose natures are overshadowed and hopelessly influenced by the malady of the age, the *furore commercialis*, if I may so speak, which is itself a mania and evidence of human decadence. The rapist is the most repulsive cancer of society; he is the festering bore which one hates even to mention. For the good of humanity he deserves close consideration, however, at the hands of science, which is repelled by nothing. In this country, we have to deal with two classes of ravishers which need separate consideration—the white and the black. At this age there should be no ground for the appearance of white ravishers; there ought not to be even a case of sexual insanity. The responsibility of this criminality rests also on the organic basis of man, but the commitment of the act is in the line of natural law, not in violence of it; it is the satisfaction of the natural appetite by unhallowed means; it is the exercise of a natural function denied by the laws of the land, the ethics of society and religion, and the law of personal rights of the body. It does not, therefore, require any insanity basis whatever, to accomplish the crime.

The paranoiac kills a man because his degeneration has brought to his mind the idea, and perhaps the necessity of such a flagrantly unjust, unnatural, violent thing, but the paranoiac may commit rape simply to satisfy a passion, not necessarily bringing at all into play any part of his diseased mentality, except possibly the lowered moral tone of his nature on account of which he may not weigh sufficiently the import of carnal crime. As a matter of fact, rapists in general are not found chiefly among "cranks," although there have been half-witted ravishers.

There are but three explanations for the existence of the white ravisher: Atavism, by which is brought forth in an individual the characteristics of animalisms of some ancestors of the generations past; individual perversion by inheritance and acquirement; willful satisfaction of an unborn or acquired passion; insane influences. To establish the responsibility of the rapist, one must consider each and all of these propositions and study the case from within, taking into account the environments and other influences. Here, as in murderous cranks, civilization is greatly at fault. The ill-balanced ethics of society, the numerous licentious, hidden domestic criminal influences, the fast-living pace of most of the civilized races are largely to be blamed.

The negro ravisher is an individual apart. His race is not fully civilized as yet, in the full sense that this word implies to-day. The rapists among them represent outbreaks of the natural instinct of dangerous animalism let loose among a flood of more advanced people. There seems to be a frightful carnal passion that more refined, educated, controlled and subdued natures can scarcely conceive of, and that perhaps no chaste white woman can understand. Unlike the civilized white ravisher, who can find no apology for his condi-

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tion in this age of religion, ethics, law and christianity, the negro ravisher is one of a breed in whom civilization in the majority of individuals has not yet reached the point where gross animalism is under proper control or wisely and safely ruled and directed. Evolution has not yet modified in this black race, the brutal feelings and instincts to the same degree that it has mastered them among the Caucasian races of the progressive countries. They are not to blame for their character, they possess what they have inherited and acquired through influences beyond their control and not what they elect by choice. The old negroes in bondage behaved towards the white women according to the principles kept before them by the stern hands of their masters. Their animalism was curbed by the iron brakes of slavery, and happily they remained subdued after their sudden exaltation to absolute citizenship, which they reached without the modifying and purifying processes of social evolution. Had the black race ended here, all would have been well for the whites, but the system of emancipation, was unwise, it has greatly wronged both the whites and blacks; the latter by robbing them of the opportunity of advancing steadily and naturally up the slope of natural progress, and the former by subjecting them to moral and social indignities, among which rape is the worst.

The new generation of negroes born with intense feelings and instincts of animalism, and none or few of the influences of inheritance, which subjugate or, at least, rule wisely human passions in other people, knowing nothing of the bondage and restraint which ruled their fathers with respect to white women and general conduct, is to day as free as the most advanced civilized man. In other words, the young negro is the offspring of human animalism, with all that the word implies in its broadest sense, the child of a race, recently ruled chiefly by force, unchastened by the slow, gradual progression necessary to improve and form civilized nations, (even they are wharped when formed). And thus, without probation, with this woeful want of preparation, he is elevated to the highest seat of civilization, side by side with unsuspecting, trusting white women, who innocently tempt his brutal nature by their natural charms. The negro is advanced in civil privileges beyond the limits that evolution, natural law prescribe for him in the social world, and is thereby deprived of the most promising opportunity to remedy the evils of his condition. Under the selfish, quibbling governmental rule which we now suffer, which is getting worse every day and promises to hold for ages, there is no hope of ever seeing the moral rights of men rising above commercialism in government realms. As long as the principles of commerce and industry, which now exclusively underly law-making, predominate, man himself shall remain neglected, only his work shall receive attention. Money is the God of the century, in nations and under republics, as well as among those ruled by monarchial principles. Political parties would object, doubtless, if the people should try to place the negro on the plane where evolution justly places him, where he really belongs, viz, a grade of conditional citizenship below that of the white man.

The negro rapist then, is usually the expression of untamed, uncultured, unchastened animalism, with enough intelligence to increase his danger in suggesting and devising ways and means to gratify lust. And as his race increases numerically, in contact with the charitable, unsuspecting whites, without any special restraint upon him, the dreadful tendency for rape is increasing and the opportunities are multiplied.

I do not cast an unkind reflection on the negro race in anything I have said. As I have stated before, they are not responsible for their natures and social condition. White men and the faulty process of emancipation are chiefly responsible. If any excuse can be found in any individual for a rapish character, the negro has far better grounds than the white man. I do not wish to create the impression, on the other hand, that I am inclined to excuse or be lenient with the miserables, sinning against women by their devilish carnal passions. I emphatically declare that, in justice to society at large, neither the the white or the black rapist should be allowed the freedom of space anywhere on the earth, where they may see the faces of women. Indeed, when the repulsive and atrocious deed of a rapist comes to light, I feel, in common with the masses, a desire to help smother the life out of the fiend. But science cries loudly for justice, for the truthful exposition of the reasons for the existence and for the possibilities of the crime, and we must listen to reason instead of to sentiment, no matter how much more convenient and soothing the latter.

The negro rapist then, unlike the white criminal of the class, is not an atavist, nor is he usually a pervert or an insane criminal; he is generally sane and exhibits the expression of the cellular passions of a backward organization brought in freedom and contact with a more advanced race: he is still centuries behind in moral evolution, he is where our ancestors, whose natural feelings and instincts crop out occasionally in the whites of to-day, where ages ago. He is responsible for his crimes to the degree of the completest knowledge of his injustice in the light of law and order, but is fettered by burning lust and undeveloped moral sense. He seems often, temporarily at least, blind to justice, purity and the personal failing and social rights ought to excuse the rapist to the point of condoning his crime. No matter how irresponsible, he cannot, must not be allowed freedom. Civilization, by its unnatural generation and life processes, by its intemperance in all things, is responsible for most criminals, but is duty bound to smother the criminals of its own creation for the good of future generations.

TREATMENT OF IRRESPONSIBLE CRIMINALS.—The treatment of irresponsible criminals and rapists is as proper a question for physicians to discuss, as is the question of any pathological condition of human nature. It is wrong to leave this all-important problem to the whims and sentiments of legislators, among whom so few are

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competent by training and proper experience, to act properly and justly in the premises.

Two modes of treatment confront us: Preventative and curative. As to the prevention, outside of legal enactments, there can be but one general principle to govern it, viz. The wise selection of mates in marriage and in natural life. If the human race, in its domestic relations, was but one-half as careful as the stock-raiser is in breeding, raising, feeding and watering horses, sheep, cattle, hogs, etc., the physical, mental and moral nature of man would reach perfection. But as long as blind passion, money, social status, prudishness, lasciviousness, commercialism, fads and other unwise stimuli and conditions underly marriage, irrespective of physical, mental and moral health, so long will the degeneration of the races increase.

But what shall we do with the existing irresponsible criminals? Let us first consider the murderous cranks. Shall we imprison these, shall we kill them? If my premises as to the basis of normal and abnormal characteristics, are correct, there is no room for argument. We must not kill them. But the nature of the imprisonment concerns society. The incarceration in a dungeon is neither right nor proper. We should resort to an educational curative plan, which would never let an injurious crank loose until it is absolutely established that the cause of the mental deviation was entirely removed. Even then, they should remain under certain kinds of surveillance.

What shall we do with the existing ravishers? Here, two systems of punishment and improvement offer themselves. First, the sequestration of the individual; second, circumcision; third, the production of absolute impotency by surgical interference. Neither suggestions are new, but they will bear discussion and serious consideration.

Sequestration is obviously the most justifiable treatment of the insane rapist, whose treatment I have just considered under the head of irresponsible criminals. The nature of the captivity should be regulated by the merits of the individual cases. The second mode is proper for all cases, and the third for certain classes free from degenerative basis of criminality.

Dr. Remondino points out that circumcision has a moral influence of decided value. The scientific arguments he adduces in favor of it, are worthy of serious consideration. He states, in sustaining his position, that, though the Jews are proverbially ardent worshipers at the altar of Venus, rapists among them is the rarest anomaly. It is a treatment open to no serious objection from any standpoint, and applicable to white and black. There are many reasons to believe that if every negro in the land were circumcised, their animalism would be somewhat modified. I would have every male of them circumcised if they remain with the whites. Their colonization by themselves, away from other races, would solve the problem, so far as their civilized victims are concerned, and would afford them at least an opportunity of progress by natural evolution. All men found guilty of rape, unless manifestly unsound and therefore positively doomed to incarceration I would transform into eunuchs; not one of them should be allowed the opportunity to wrong society, to ruthlessly assault the person of any woman, or to reproduce their infortunate kind. Instead of killing them, or of sending them to penitentiaries for temporary punishment, and then letting them loose to renew their crimes or propagate their like; I would make them useful members, servants of the human family, by depriving them forever of the chief cause of their dangerous propensity. This would help to solve the servant question, by the way.

The treatments proposed for the murderous paranoiacs and the rapists, (in this paper rather too full of digressions, I am sorry to say) are, I very respectfully submit, more humane, more just, more in keeping with science, than the treatment now in vogue or suggested by sentiment and passion. Medical science could lend a very useful hand in the detail and care of all such ills of human nature, if the facilities contemplated by the treatments, proposed, were at hand.

T. D. Finck, M.D., Kentucky School of Medicine, Louisville, says: I am convinced there is no remedy so useful and attended with such satisfactory results in the treatment of melancholia with vasomotor disturbances, anemic headaches, emotional distress and active delusions of apprehension and distrust, as antikamnia. It also increases the appetite and arterial tension, as well as being particularly serviceable in relieving the persistent headache which accompanies nervous asthenia.

As an antiseptic and antipyretic and antiperiodic, it is good, nothing better. It is especially beneficial in spasmodic asthenia, in hay fever, in whooping cough, in headaches, particularly of the nervous variety, also that from disorders of the digestive organs, or from the various neuroses.

In mild hysteroid affections, in the various neuralgias, particularly ovarian, in the nervous tremor so often seen in confirmed drunkards, also in delirium tremens, it is of particular service.

The pain of locomotor ataxia yields to treatment with antikamnia in a remarkable degree, its analgesic power being of a peculiar kind, in that it will relieve painful affections due to pathological conditions of the peripheral nerves, as neuritis, etc.; also lumbago, sciatica and myalgia.

When pain is the prominent symptom, it is a desideratum, as its province is relief of pain in any and every form. And best of all, there is no danger of morphinism, no nausea nor malaise so common with opium and its preparations.—*Cincinnati Lancet-Clinic.*

MALARIAL FEVERS can be contracted in almost any section but can be thoroughly stamped out of the system at only one place, Hot Springs, Arkansas, with its unrivaled system of baths.

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Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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A New Departure.

Aiming always to keep abreast with the progress and pace of this electric age, the publishers of the MEDICAL REVIEW, after duly considering and weighing the matter, have concluded to take a new departure in the field of medical journalism, mainly, that of the introduction of a Veterinary Department. In doing so, the needs of the physician has been one of t'e first considered. "Physician heal thyself," we all understand, but to heal thy horse, the faithful and highly valued animal of the doctor, whether in town or country. What do we know of his economy in his ailments? Very little indeed, and as a consequence the physician, who with his knowledge of medical science, could, with but a hint or suggestion from a well conducted veterinary column, make this knowledge available in the treatment of his horse must perforce submit to have him treated quite too often—especially if he be a country practitioner—by empyrics and quacks. It is not to be understood that the innovation here made is done with a view to the making of veterinary surgeons; the object intended is nothing more than to aid in a convenient way and at a time when the competent veterinary practitioner is beyond reach—the physician in giving to his horse, or that of his neighbors, the same measure of skillful treatment he may give to the patron himself. Under these considerations, it is hoped that the good intended by this new addition to our columns will be appreciated to such an extent that the Veterinary Department instead of being a detriment will in reality come to be considered a desirable thing to have in the family.

Is Carcinoma an Infectious Disease?

After it had been proven that the infectious granulomata, tuberculosis, actinomycosis, syphilis, leprosy, etc., are caused by micro-organisms, many authors began to suspect carcinomata and sarcomata as being due to a similar origin and within the last few years quite a number of competent observers have described micro-organisms, in- and externally of the parenchyma cells of carcinoma, to which they have attributed the origin of this malignant tumor. Just as many competent observers, however, have looked upon these bodies as the result of karyo-kinesis and some have considered them to be white and red blood corpuscles.

More than forty years ago Virchow described small unicellular bodies inside of and between the carcinoma cells, which he pronounced as endogenous cellular products. It appears that the bodies described lately by various authors as parasites, and as the probable cause of carcinoma, are identical with those seen by Virchow. But also so-called micro-organisms of a different form have lately been described. Scheurlen claims to have discovered a bacillus which he was able to cultivate upon potatoes and gelatine. Kubaloff has described a bacillus of carcinoma which he succeeded in cultivating. Rappin has described a diplococcus with which he claims to have inoculated rabbits with positive results.

The newest theory upon this subject has been advanced by Adamkiewicz, who claims that the cells of carcinoma are not epithelial cells as they are generally supposed to be, but this author distinguishes three kinds of carcinoma cells. First, the young cells, which are similar to leucocytes, which upon further development approach the character of epithelial cells and later on because carcinoma cells with irregular projections until at last they degenerate and become disintegrated. Adamkiewicz holds that the carcinoma cells themselves are parasites and they produce a ptomaine, which he has called cancroin.

One fact which, above all others, speaks for the hypothesis, that carcinomata have a parasitic origin, is that the inoculation of carcinomatous tumors with certain ptomaines causes a pronounced reaction in their tissues; for a similar reaction has been observed in other infectious monoplasms. This reaction has been produced with the ptomaines of pyogenic bacteria, with the extract of carcinomatous growths, cadaverni and other products of albuminous decomposition. The local reaction, which has been observed in sarcoma as well as carcinoma is very similar to the well-known tuberculin-reaction. With our present knowledge these reactions

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are indicative of the presence of micro-organisms. But, in consideration of the variety of bacteria and albuminous products that bring about this reaction in carcinomatous tumors, we have no clue as to any particular kind of parasite that may be the cause of the growth.

A second fact, which seems to justify the opinion that carcinoma is due to a parasite, is furnished by the etiology of the epithelioma contagiosum. This growth which in his histological structure is very similar to the ordinary epithelioma, is due to a coccidium, a unicellular parasite.

On the other hand, it appears that the fact that the infectious granulomata are due to parasites, does not furnish a pertinent reason for the assumption of a similar etiology for the carcinoma. For the metastates of infectious granulomata are not due to the transplantation of the cells constituting the neoplasm, as is the case in carcinoma, but by the transmission with the blood- and lymph current of a specific organism. In the carcinoma the metastases are formed in a similar way as the growth of artificially transplanted epithelial cells, while in the infectious granulomata they are due to an accumulation of round cells, caused by the proliferation of pre existing cells, in consequence of the irritation set up by the presence of micro-organisms and their ptomaines. Carcinomatous metastases in any tissue of the body present the characteristics of the epithelial cells of the primary growth not affecting the pre-existing cells of the tissue or organ into which they have been transplanted even if these pre existing cells are epithelial cells. Dr. James P. Warbasse has shown that in primary carcinoma of the liver the metastases in other organs consist of liver cells and upon section yield a fluid showing the chemical reaction of bile salts. Von Eiselberg has reported a series of cases of adeno-carcinoma of the thyroid gland with the formation of metastases in born tissue presenting exactly the architecture of adeno-carcinoma of the thyroid gland. The arrangement of the cells was the same and the alveoli were filled with the same colloid material as those of the primary tumor of the thyroid gland. In the face of these facts Adamkiewicz's hypothesis is absolutely untenable.

With the enumerated facts, that speak in favor of the infectious origin of carcinoma, we must bear in mind that, according to Koch, three postulates are required in order to designate a certain micro-organism as the cause of any disease.

1. The parasite in question must be found in all cases of the disease.

2. The parasite must be capable of cultivation.

3. The inoculation of a susceptible animal with the culture must cause a similar disease characterized by the presence of the same parasite.

In carcinoma not even the first postulate has been fulfilled. Consequently our knowledge upon the subject under discussion will have to be formulated thus, that, while cartain facts point towards the probable infectious origin of carcinoma, no specific parasite has so far been proven to be the etiological factor of carcinomatous growths.

Scurvy In Infancy.

Cases of scorbutus among infants have been described only within about the last twenty years and in the United States cases have not been reported until September, 1891, when D. Wm. P. Northrup read a paper upon this subject and reported eleven cases before the American Pediatric Society. One of these cases died and the pathological findings, which have been corroborated by others, proved of great value.

The New York Academy of Medicine recently held a meeting, whose chief object was the discussion of this disease, to bring out varied experiences and to secure data which would establish the condition as a distint disease of childhood. According to Dr. Northrup it is clearly proved that the disease develops almost exclusively among private patients, and in an overwhelming proportion of cases upon those fed upon a proprietary food. The most popular food will show the greatest number of cases of scurvy, if it were popular enough, it would obtain a monopoly on the disease. *The pictures of the blooming infants reared on these foods are attractive, but the proprietors fail to publish pictures of the scurvy cases.*

In the paper read at the meeting of the Academy Dr. Northrup said:

Scurvy is a disease dependent upon the prolonged use of improper food or absence of fresh food. Its most characteristic symptoms are spongy gums and a tendency to hemorrhages. Notably these hemorrhages are subperiosteal collections of blood about the femora and other long bones, escaped blood into and beneath the skin forming petechiæ and ecchymoses, into the gums and membranes of the mouth, intestines, and pelvis of the kidney. The following combination of symptoms appeared in several cases: spongy gums and swollen thighs.

Swelling of both thighs, gums spongy and bleeding, "black eyes," bloody passages, anemia.

Spongy gums, swollen thighs, petechiæ, demonstrated subperiosteal hemorrhages.

Most cases have been attributed to persistent feeding of the infant on prepared infant foods and condensed mild. Even a small proportion of cow's mild and breast milk, according to some observers, are not sufficient to protect against this peculiar form of malnutrition. It occurs most among the rich, where strict regimen which has persistently excluded fresh food and fruit-juices has been carried out. Among the poor where the children receive mixed food from the table, and consequently fresh food, they escape scurvy but suffer from rachitis. The age most subject to the typical disease is the second year of life. The most typical symptoms are swollen and painful joints and spongy gums. The treatment,—orange-juice and other fresh fruits, with proper diet. The disease is supposed to be a distinct entity, though it is often associated with rickets. It was formerly believed to be so closely associated with it as to deserve the name of acute rachitis.

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Dr. Henry Ling Taylor read a paper entitled "Scorbutic Pseudo-Paralysis.

This term was chosen to emphasize a condition frequently occurring in infantile scurvy as illustrated by the following cases: The patient, 11½ months old, had been fed exclusively on condensed milk, and was brought from the South for some supposed spinal affection. Local symptoms developed as follows: weakness in sitting up, later inability to sit up; inability to move the limbs and later the trunk; a tender swelling over the right thigh; spongy and bleeding gums; swelling about one eye; purplish spots; and a swelling about the right ankle. The nutrition became impaired, and she became sensitive to the slightest touch or movement. When first seen by the writer the condition was critical. Temperature was 103.5°F. She refused to nurse, and screamed loudly at every touch. She had eight teeth, around which the gums were swollen and spongy and ulcerated. Legs were motionless, the toes and ankles could be moved; the reflexes were normal; the spine was rigid and somewhat bent; there were no symptoms of rachitis. The child was put at once on Pasteurized milk and received the juice of one orange and two teaspoonfuls of raw beef-juice daily. No drugs were administered. The little sufferer began to gain at once; the symptoms disappeared one after the other; and in two weeks the spine was flexible and straight, and the legs were moved freely. The recovery was permanent. The parents reported that another child of a neighbor, 13 months old, fed upon the same diet, developed painful swelling of the joints, spongy and bleeding gums, and died of exhaustion.

The pseudo-paralysis is one of the most striking of the lower limb symptoms in these cases; the trunk and upper extremities may also be affected. All observers have noticed such symptoms. This is due to local hemorrhagic lesions, but essential paralysis cannot be assumed. This may be due to the blood and serous infiltration into and between the muscles. Contraction of the muscles on their tender periosteal attachments would be instinctively avoided. Where joint irritation exists there would be local reflex muscular rigidity, which would also operate to prevent motion. This pseudo-paralysis is distinct from other paralytic affections, being distinguished by the accompanying symptoms of scorbutus, normal knee-jerks, and by its speedy subsidence on anti-scorbutic diet.

Dr. Louis Starr, of Philadelphia, said that, in few diseases were the various symptoms so constant in their grouping. The conditions in these cases were as follows:

1. Immobility, excessive tenderness, and a varying degree of swelling of the lower limbs. The swelling was most marked in the neighborhood of the joints, the skin being tense and often livid in color, but not pitting on pressure.

2. A purplish discoloration of the gums, which were also often spongy, swollen, and bled readily. These features were entirely absent when no teeth had been cut, and when but few teeth had appeared, were absolutely limited to the gums surrounding them. There had been complete and rapid recovery under anti-scorbutic treatment.

Each of these cases occurred in the best surroundings, and were traced to improper feeding, usually some baby food. Three cases were apparently due to alteratives produced in ill-combined milk mixtures by sterilization. The symptoms subsided upon stopping the sterilization, without otherwise changing the food. A typical case was reported in a child of eight months, in which the symptoms consisted of spongy and bleeding gums, pain in and immobility of the legs, and some swelling in the knee- and ankle joints. Recovery followed regulation of the diet with the administration of a teaspoonful of orange-juice and the same quantity of raw beef-juice three times a day. This was ordinarily the treatment used in all cases. Olive oil rubbed into the limbs brought some relief to the tenderness and assists the nutrition. Some preparations of iron were administered in some cases.

Dr. F. Forchheimer, of Cincinnati, wrote, in answer to questions, as follows:

1. Diagnosis rests upon the hemorrhagic nature of the symptoms. He believed all the forms classed under the head of purpura, peliosis, and scorbutus to be the same,—*i. e.*, scurvy.

2. Hemorrhages that are diagnostic occur under the skin and in the mucous membranes.

3. Hemorrhages that occurred under the skin and the peculiar condition of the mouth may exist together or alone. It is difficult to estimate properly the value of the mouth-symptoms in cases where there are no teeth. When teeth are present it may be mistaken for ulcerative stomatitis; but therapeutic experiment will decide the question in a very short time.

4. Diagnosis rests upon the following symptoms: Pain in the joints of the excremities, spots in the skin, and condition of the mouth.

5. I believe scurvy to be a collection of symptoms, the cause of which are unknown. It seems from present knowledge to be some chemical change, probably hemic.

6. The symptoms disappear very rapidly under treatment; the joint-symptoms begin to improve in a few days; then the mouth, then the spots, lastly, the anemia.

7. The most successful treatment has been orange-juice, lemon-juice, and good milk. I cannot refrain from laying stress upon the aid to diagnosis which is found in treatment.

Dr. A. D. Blackader, of Montreal, said he had seen no cases of scorbutus in this country, and inquiry among prominent men of large medical experience in Montreal showed that they had either not seen scorbutus or had failed to recognize it.

Dr. A. Jacobi said that he had recognized scurvy before Dr. Northrup's paper appeared, but he now believed that he had overlooked many cases. In former

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years he had frequently made a diagnosis of acute rachitis. Most of such cases were undoubtedly scorbutus. They were not infrequent. He had seen them most frequently in winter. They developed almost exclusively among well-to-do people, among children who are artificially fed. A long-continued and exclusive diet of sterilized milk might probably cause the disease. The gums, in his opinion, did not furnish an absolute evidence of scorbutus, although they were, as a rule, affected. He had seen a marked case with teeth in which the gums were not spongy, and another child of six months with no teeth with spongy and bleeding gums.

Scorbutus is, without question, a disease by itself. It has been diagnosticated as acute rachitis, as rheumatism, as trauma when a single joint is affected, and as ulcerative stomatitis. In treatment dietetic management is most important. Fruit-juice is a valuable agent and should be given. Animal food should also be given, but milk is the most important element. It should rarely be given alone, but in connection with one of the cereals. He usually dilutes it with barley-water. Phosphorus is an excellent addition to the treatment, especially when rachitis is present. The official elixir should be given in doses of ten to fifteen minims three times a day.

American Medical Publishers' Association.

The annual meeting of this Association will be held at White Sulphur Springs, West Va., Friday and Saturday, August 3 and 4, 1894. The annual dinner will be given in the evening of the first day. A number of practical papers are being prepared, bearing upon subjects of interest to every one engaged in medical publishing. The above dates have been selected as a time when most business men can best spare a few days for a pleasure trip, and reduced rates having been secured at the hotels for members and their families, it is hoped that this meeting will be one of congeniality as well as of business interest. A special meeting has been called for June 4, at San Francisco, in the Palace Hotel, at 1 P.M. sharp, for the transaction of special business. It is hoped that all publishers attending the A. M. A. will make it a point to be present at this meeting.

Western and Southern members should write to E. B. Pope, C. & O. R'y, St. Louis, and arrange to advertise for transportation to White Sulphur Springs.

WITH THE SUN high in the heavens, shedding its powerful rays full on suffering humanity, those who have prepared themselves for the siege of hot weather can laugh in derision. There is one place on the American Continent to properly condition the system for this onslaught, and that is the famous Hot Springs of Arkansas with its excellent baths.

NOW is the time to subscribe for the MEDICAL REVIEW.

CORRESPONDENCE

Ulceration of the Colon.

Editor MEDICAL REVIEW.—I noticed Dr. Hutchins' article in the REVIEW concerning ulceration of the colon. I have been actively engaged in the practice of medicine 35 years and in that time have met with several cases. But, I will only mention the last two, which I have quite recently discharged cured. They both came to me after treatment by other physicians. Treatment: I washed the colon once a day thoroughly with warm water, then injected through flexible tube one ounce of cool water containing two grains of nitrate of silver (chrystals). I also gave a No. 1 capsule 4 times a day containing ¼ grain of argent nit. (chrystals), and sugar of milk enough to fill capsule, this was continued 48 hours, then a rest of 48 hours, then capsules as before for 48 hours. Diet, rolled California white wheat, rolled oats, sweet milk. One has been free from discharge 4 weeks. The other 2 weeks, using ordinary diet now.

T. M. ROGERS, M.D.

Fairfield, Ill., March 21, 1894.

Reunion of the United Confederate Veterans.

Editor MEDICAL REVIEW.—Gen. J. B. Gordon, Commanding United Confederate Veterans, respectfully requests the press, both daily and weekly, of the whole country to aid the patriotic and benevolent objects of the United Confederate Veterans by publishing date Reunion is to take place at Birmingham, Ala., on Wednesday and Thursday, April 25 and 26, 1894, with editorial notice of the organization, or publish this letter. Also to urge ex-confederate soldiers and sailors everywhere to form themselves into local associations, and send applications to these headquarters for papers to organize in time to participate in the great reunion, and thus unite with their comrades in carrying out the laudable and philanthropic objects of the organization.

Business of the greatest importance will demand careful consideration during the fourth annual convention—such as the best methods of securing impartial history, and to enlist each State in the complication and preservation of the history of her citizen soldiery; the benevolent care through State aid or otherwise of disabled, destitute or aged veterans and the widows and orphans of our fallen brothers-in-arms; the care of the graves of our known and unknown dead buried at Gettysburg, Fort Warren, Camps Morton, Chase, Douglas, Oakland Cemetery at Chicago, Johnson's Island, Cairo and at all other points, to see that they are annually decorated, the headstones preserved and protected, and complete lists of the names of our dead heroes with the location of their resting places furnished to their friends

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and relatives through the medium of our camps, thus rescuing their names from oblivion and handing them down in history; the consideration of the different movements, plans and means to erect a monument to the memory of Jefferson Davis, President of the Confederate States of America, also to aid in building monuments to other great leaders, soldiers and sailors of the South; to aid in securing a pension from the States lately composing the Confederate States for Mrs. Jefferson Davis; to make such changes in the constitution and by-laws as experience may suggest, and other matters of general interest.

Total number of camps now admitted 470, with applications in for nearly one hundred more. Following list of camps by States: N. E. Texas Division, 58; West Texas Division, 29; S. E. Texas Division, 19; N. W. Texas Division, 13; S. W. Texas Division, 12; total Texas, 131; Alabama, 72; Mississippi, 47; Louisiana, 34; Arkansas, 31; Kentucky, 27; South Carolina, 27; Florida, 26; Georgia, 21; Tennessee, 17; North Carolina, 14; Virginia, 10; Oklahoma, 4; Missouri, 3; Indian Territory, 2; Illinois, 2; District of Columbia, 1; West Virginia, 1.

GEORGE MOORMAN,
Adjutant General and Chief of Staff.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, March 31, 1894. The President, W. B. OUTTEN, M.D., in the chair.

DR. J. W. SMITH presented a patient, a little girl, 18 months old, who seven or eight weeks ago, had fallen against the metal corner of a trunk. The injury was, apparently, slight, but was followed soon afterwards by chills and fever, and suppuration. The discharge escaped through the nose, and was accompanied by several hemorrhages.

He advised exploratory incision, and, in doing so, cut down upon the bone and found a fracture, a portion of which penetrated the membranes. He trephined two days later and found an abscess, about the size of a filbert, situated in the membranes and connected with the frontal lobe. The rigors, fever and discharges ceased and the patient has gained in strength, although suffering from whooping cough since the last two weeks.

He did not know the origin of the hemorrhage, although he did not think that it could have come from the frontal sinus, as, in his opinion, that does not develop before the fifth or sixth year.

DR. WITHERSPOON believed that the hemorrhage was due to an impeded venous circulation, by pressure on the superior longitudinal sinus and foramen cecum, which is associated with the blood supply of the nose. He could hardly account for the purulent nasal discharge, unless it was associated with an abcess, situated between the dura and the bone, that had made its way into the nose through the cribriform plate of the ethmoid.

He also called attention to the fact, that the younger the child the freer is the anastomosis between the veins of the nose and the superior longitudinal sinus, due to developmental conditions.

DR. PAUL PAQUIN read a paper (See page 301), entitled

THE BASIS OF PERSONALITY AND THE RESPONSIBILITY OF CRIMINALS.

DR. BOND considered the subject one of very great importance, one in which real advance should be made and is permissible. He said it is very difficult to draw a line of demarcation between the sanity and insanity of a criminal, but there are two factors at work governing the criminal tendencies, namely: Inheritance, and habit or associations and surroundings. Of these inheritance is by far the most important factor, in his estimation, and he believed that the laws governing the organization of society and the conditions for marriage are without sufficient consideration at the hands of the lawmakers.

We are very careful how we breed our horses, dogs and hogs, and are able to see the result beyond question, but when the question of intermarriage in the human family is to be decided; there is an absolute disregard of the teachings that we should receive by observation on the lower animals. When a gentleman's daughter contemplates marriage, it never occurs to him to inquire into the physical constitution of the individual or his family, nor does he consult with his physician in reference to the propriety of the alliance, although he could gain valuable information by so doing. Money is the *sine qua non*, and the quality of the choice is estimated by the quantity of dollars.

The speaker believed that there should be a board of medical examiners appointed, before whom every candidate desiring to marry should be required to pass an examination. This board should have power to decide as to the propriety of the marriage. By this means we should finally have a very much improved class, morally and physically.

As to the negro rapist, the doctor said there need be no alarm. There are a great many negroes in the country and only a few of them are rapists. He believed that all races become civilized by servitude at first. As long as the negro had not attained sufficient intelligence to take upon himself an individual civilization, it was proper that he should remain a slave. As soon as he could civilize himself his servitude came to an end. The negro has advanced in civilization as fast as any other similar race, and he believed there is a good future before him. The only mistake made was, that he was elevated too rapidly to a position of independence and responsibility.

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Dr. I. N. Love believed that the subject of crime had not been properly dealt with up to the present time. Crime is a disease. It depends largely upon the physical condition of a man, his secretions, whether they are perverted or not, the arrangement of the convolutions of his brain and the nerve centres, whether they are burdened with ptomaines or other poisons. His intellectuation is in harmony with these conditions, and yet, this is not taken into account in considering the problem of crime.

He believed, to a certain extent, in heredity in crime. The influences of heredity and cultivation could be seen in the lower animals, in floral and vegetable life, flowers, as we have them to-day, being largely the result of cultivation. We should impress, upon our patients, the possibility of mental and physical cultivation and their bearing on heredity, and inculcate into them the necessity of their own mental development. We should remember that we are our "brother's keeper," and until the thinking men of the world realize this fact and act in accordance with it, no solution of the problem will be found.

He believed that the negro question is of very great importance, as evidenced by almost daily occurrence in the South, and, until some radical reform is affected, it is likely that summary punishment will be meted out to these criminals. He thought the operation of castration should be performed upon the ravisher prior to his being killed, to guard against a possible escape.

Dr. Chaddock considered the suggestions of Dr. Bond, in reference to regulating the mating of couples, wholly impracticable, as persons of the highest intelligence are often so much influnced, in their matrimonial choice, by peculiarities of organization of the opposite sex, that their better judgement is overcome. Such matters are almost always determined by factors that have no relation to scientific knowledge or general intelligence. He was inclined to think that much could be done by training, and that something should be done by the law makers, in this matter of dealing with criminals.

He called attention to the self-adopted rule of a Chicago criminal judge. Instead of shuting youthful criminals a dozen or more together in a cell, he arranged to have them sent away, removed from their parents and evil associates. He believed the medical profession should exert itself in that direction, although an institution in Elmira, New York, where the idea of criminal reform has been carried to its highest perfection, stands in disgrace, and its manager is accused of the foulest mismanagement, still, he thought, that by proper management, much could be effected in the way of reformation of youthful criminals.

Dr. Murrell did not think that heredity was a very influential factor in determining criminal tendencies. He does not believe that they are inflicted by the parent upon the child. The condition could be explained by the quotation, "An idle brain is the workshop of the devil." We hardly ever hear of crime among people employed in mind and body, and much of it could be prevented by stopping loafing in the streets, whether by rich or poor. Life is largely shaped in the early years, and if rightly shaped, there is little danger that it will go astray. He thought the saying correct "If you will give me the first seven years of a child's life, you may have the rest."

Dr. Kieffer thought that the paper presented another point besides the medico-legal aspect of the insane and the rapist; namely: The question whether man is a free moral agent or not. If man is merely an aggregation of millions of cells, and his every act depends upon the molecular action of the cells of his nervous physique, then the line between sanity and insanity or accountability and non-accountability would vanish and he would be reduced to a mere machine, and punishment for crime justifiable only for the protection of the community and never for the purpose of deterring the individual from the further commission of crime. The speaker also thought that there should be no line drawn between the rapist and the seducer. In the one case his victim is physically unable to resist his advances, while in the other she is unable to resist the smooth tongue of the offender. The preponderance of negro rapists, the speaker explained, is due to a desire, on the part of the negro, for sexual congress with a white woman, one of a race superior to his own.

Dr. Outten said that a man is very likely to be the result of his surroundings. If we visit certain portions of the globe, for instance Italy, or in olden times Greece, where the climate and surroundings were mild and man the most powerful thing in nature, the Gods were represented with human faces. Again, when you go to India, with its simoons and earthquakes, where nature takes on a hideous aspect, man creates his Gods in different form. Our surroundings are having a constant influence on our natures, but he did not think there is any danger of the entire race becoming lunatics. The fact that the asylums in New York are teeming, and that five or six asylums in San Fransisco are filled with disappointed gold seekers, who became insane in consequence, is no proof that the whole world will be one gigantic lunatic asylum.

The speaker believed that everybody should be circumcised. It was a grand idea of the Jews, who have developed themselves because they were forced into a corner and were obliged to fight. As regards legislation, he thought the trouble is that the right men do not make our laws. Some gentlemen do not believe in heredity; say, "Give me the first seven years of a child's life and that is all I want." This will hold good among the highly intellectual class, but in ninety-nine cases out of a hundred, if the child is of the inferior class, it will not continue a good man. Castration would be a good idea, but he doubted whether it would stop the desire. It may not do away with the propensity of the male, as in the woman removal of the ovaries does not affect her sexual life. As to Dr. Bond's suggestion of having a board of examiners, he did not think that practicable; society will continue to regulate that.

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Dr. Funkhouser said, that the highest study is religion. It is the history of a nation and underlying it are things which appeal to the animal instincts of man. We find, in the history of any nation, evidences of the representations of the sexes. This is true of the Brahmins, the Buddhists and also the Jews. He believed that there is a good deal in heredity. A child inherits certain tendencies and under favorable surroundings, these tendencies will be brought out. If, instead of the teachings of the Sunday schools of to-day, our sons and daughters were taught physiological facts as to fitness in the selection of a life partner, the human family would improve.

At the time of the procreative act the man or woman may be drunk or under the influence of drugs, and, in such cases, the offspring enters the word handicapped with those born under more favorable circumstances. The woman should be taught to consider the welfare of the child in the womb, and, the speaker believed, it could be educated, to a greater or less extent, while in this condition. She should be taught to impress the child with desirable peculiarities, after it is born.

In the doctor's estimation, there is no doubt about the inferiority of the negro race. The difference between the seducer and the rapist is, that the seducer represents the man civilized, while the rapist represents him in his animal nature. As to circumcision, that has existed ever since there was a history. The Hebrews were not the instigators of it, but Moses knew that if it was established as a religious rite it would be done. It certainly should be done in all male children. As to castration, that should be done, not only in the case of rapists or seducers, but in criminals of other character. He believed that it will ultimately be the form of punishment, as it is now among a certain religious sect in Russia. He alluded to a family in New York, which had been producing criminals for five or six generations. They have been guilty of incest. He believed the world would have been better off, if castration had been done in the beginning, and if these criminals had not been allowed to procreate their kind.

Dr. Paquin believed that there is absolutely nothing, the tendency of which, is not inherited; not only the physique, but every faculty and psychical possibility. The charater of a child is certainly not dropped from the skies when it is born, but it is inherited from the parents. We can make a man drunk in an hour, and he will be foolish, crazy, insane by the action of the degenerating agent. If he had received his character from the skies, it could not be altered simply by changing the physical cells. Children are born with criminal tendencies because the parents had such tendencies. He recalled the case of a little child three years old, which delights in tormenting animals and making them suffer. Its mother had a constant desire to destroy it before its birth, and it was undoubtedly criminally inspired before birth.

He does not deny that the negro race is as promising as any other, but the negro was free before he was far enough advanced in civilization. As to insanity, statistics show that in 500 years, all the people of the world will be lunatics, if the present rate of increase over the population continues.

He did not think that the removal of the ovaries in women is analagous to the removal of the testicles in man. While the desire may remain in both cases, he thought conception possible after ovariectomy.

It is immaterial to him how reform is accomplished, but he thought, some action should be taken as there is much room for improvement.

ABSTRACTS

MEDICINE.

Notes on Constipation in the Tropics.—This state, or habit if you will, has been regarded more in the light of a symptom in many abnormal processes rather than as a disease *per se*, but its paramount importance as a symptom is admitted by most medical men, viewed in all pathological aspects and in all countries, especially tropical Africa; here, indeed it assumes the proportions of a disease most palpably when one considers the gravity of its sequelæ. In many diseases (save when its oppostite and sometime follower "diarrhea" occurs) the first duty of the physicans is to clear or regulate the bowels; it is, too, one of the first questions he puts to his patient. In all tropical countries it is of grave import, becomimg after the time habitual with some patients. It is, too, often the first sign of an acute malarial attack; but at all times in Africa, most of all parts, it should be dealt with promptly before it is allowed to degenerate into a habit, or chronic ill health surely results. In India and Africa we have to look at constipation from another point, namely, the fact that hyperemia and congestion of the liver are frequently its forerunners and causes. But in any case attention should be paid to the relief of the bowels every morning at a regular hour, of course previous to the early morning meal, which is taken in Africa about 6 A.M. If the intestines are loaded they should at once be emptied by a saline purgative (*cf.* treatment), so as to correct the tendency and prevent its habitual recurrence. Malaria, from which none are exempt in these countries, plays the most important part as a primary cause of this complaint. The late Sir Andrew Clark, one of our most practical physicians, laid great stress on chronic constipation and its results; he formulated the following tabloid as a remedy for this easily and too frequently acquired compaint:

℞	Aloin,	gr. 1-5.
	Strychninæ,	gr. 1-60.
	Ext. bellad.,	gr. 1-8.
	Ipecac,	gr. 1-16.

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The frequent use for this remedy will, as this prescient and thoughtful physician foresaw, counteract all leaning toward this condition.

ETIOLOGY AND PATHOLOGY.—Its apparent causes in tropical countries are briefly as follows:

1. Climatic. The great heat causes a large amount of fluid to be excreted by the skin; this must act as a drain upon the watery constituents of intestinal juices, etc., for if the intestines do not contain sufficient fluid peristalsis gets arrested.

2. There is also frequently grave alterations in the secretion and activity of these various digestive ferments, etc.

3. FOOD.—This in Africa is mostly thinned, and is not sufficiently nutritive to supply the wants of the body to repair the waste occasioned by increased cell metamorphosis, hence weakness speedily affects muscular and nervous systems, constipation resulting.

4. Want of proper exercise, leading to torpidity of various internal organs.

5. Malarial taint brings about, as previously mentioned, various defined tissue degenerations, but this is first of all seen in the circulating nutrient medium, the blood. Chills also bring about two somewhat different conditions, hyperemia, too large an influx of blood and congestion, too much obstruction to its egress, are well-marked causes of constipation, and of tropical abscess also; but another fruitful cause is rich food, abuse of stimulants (and hot condiments).

6. Anemia, which is so radical a change in the quality of the blood, in malarious districts influences for ill, of course, not only the nervous systems, but all parts and functions of the body, including muscular fibers of intestinal coats, which being feebly nourished do not respond to the ordinary stimuli, nor do they possess their usual power of hurrying on the feces to their exit from the body per anum.

7. Fecal masses too, soon begin to act mechanically as inhibitants to intestinal motion, and favor bacterial multiplication and all their toxic results.

8. Mental anxiety also predisposes to constipation, although the act of defecation is somewhat under control of the will.

TREATMENT.—All bodily habits should be duly regulated as to amount and quality of food, amount of exercise, cultivation of regular hour for relieving the bowels; avoidance of stimulant drinks and chills when heated. Note. All food should be plain and non-stimating. Medicinal. At the outset empty the bowels promptly by one dose of calomel in tabloids grs. v. to x., or occasionally a full enema of olive oil or a rectal injection of one dram of glycerine. Afterwards, for a few mornings, 2 tabloids of cascara sagrada for a dose, or ℞ magnesii sulphatis ℥ ss. aq. menth. pip ad ℥iss; Ft. hst. Omni mane, at 5 A.M. When there are hepatic symptoms full doses of ipecacuanha, such as 3.5 grain tabloids preceded by a small dose of morphine, gr. ¼, to prevent rejection of the remedy, or hot fomentation to epigastrium, as advised by the late Surgeon Parke. Having overcome the liver complaint, the continued use of anti-constipation tabloids formulated by Sir A. Clark is most successful. But should congestion of liver be frequently repeated, change of climate should be ordered without delay. These conditions sometimes lead to tropical abscess, when the most skilful surgical interference even avails naught. Aspiration followed by prompt drainage of abscess cavity should be carried out with due precautions.—Charles Forbes, M.D. in *Med. Times and Hosp. Gaz.*

The Treatment and Cure of Chancre With Peroxide of Hydrogen.—Willard Parker Worster, M.D., of New York, in the *Journal of Cutaneous and Genito-Urinary Diseases*, says:

The subject of the best treatment of the primary sore of syphilis has occupied the minds of investigators of late years to such an extent that almost every surgeon has a different method, and the general practitioner is somewhat at a loss to know which is the best treatment to employ as the most expeditious means of relieving the anxiety of the patient and curing the lesion. The special purpose of this paper is to draw attention to a particular method of treatment, which not only relieves the anxiety of the patient and places him in a delightful buoyancy of mind, but cures the chancre in the shortest possible time, without pain or detention from business, and with less scar and less destruction of tissue than any other method.

The chancres of the followed cases, selected from a good many recorded, were of the large Hunterian variety, embracing the worst forms of sloughing and phagedema.

Case 1.—Mr. K., aged 38 years, came to me, January 29, 1891, with a large sloughing single chancre, situated on the right side and at the base of the glans penis, at the junction of the prepuce and very deep; incubation about thirty days; penis large and soft. Sprayed it with full strength solution (15 volumes) of peroxide of hydrogen medicinal (Marchand's), at 60 pounds pressure, and dressed with iodol powder, and continued the same treatment every morning at 7 o'clock,

February 20, sprayed it as above; sore now only skin deep, and continued till February 23; sore healed; duration of treatment twenty-five days.

Case II.—Mr. W. B. came to me September, 6, 1892, with a single sloughing chancre on left glans penis, and corresponding ulceration on prepuce; incubation about thirty days; sprayed. with peroxide of hydrogen, full strength, 60 pounds pressure, and dressed with iodol; continued same treatment evenings at 7:30 o'clock, for sixteen days.

September 23, sore almost healed.

September 25, sprayed for the last time to to day; duration of treatment, nineteen days.

Case III.—Mr. L., aged 28 years, came to me August 23, 1893, with a phagedenic chancre, thirty-five days incubation, situated immediately at meatus urinarius, and sloughing its way very rapidly into the urethra; sprayed

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it with peroxide of hydrogen, full strength, 60 pounds pressure, and dressed with iodol powder. Continued the same treatment every evening at 7:30 o'clock.

August 30. Sore almost healed up, only some granulations left. Continued the same treatment every evening till September 4. Sprayed it to-day for the last time; there only being the surface of the sore about the size of pin's head. Considered himself cured and said he would not come again, Duration of treatment, eleven days.

The above cases, selected from many recorded cases, on account of their possessing the worst features of the initial lesion, serve as good examples of the treatment by the peroxide of hydrogen method.

I treated Mr. K., of Case I., on two different occasions, for the same disease, in exactly the same manner, and the two cases are about identical in regard to length of time of treatment and as to details, and he got well in about the same manner,

The case of Mr. L. presented the worst features of phagedena, which was so virulent that I think that he would have lost the greater part of the penis, if he had been treated by the nitric acid or caustic method, and, as it was, the ulcer healed with a very small scar, scarcely noticeable.

The pressure of the spray (60 ponnds), which is one of the most important factors in the whole method, not only cleanses and produces thorough asepsis of it, killing the germs of the disease at the very bottom of the ulcer, but the oxygen of the peroxide aerates the blood through the capillaries, and arrests the progress of the disease at the nearest possible point, allowing the process of repair to commence as sooon as possible according to the severity of the disease, with the least loss and destruction of tissue and consequent scar. It must be particularly understood that in using this treatment, all instruments, spray-tubes and bottles, must be made of either glass are hard rubber, for the reason that metals with one or two exceptions, coming in contact with the peroxide, will destroy its component parts and render it useless, and I have found also a great difference in the results if the peroxide is fresh or otherwise. The first effect of a spray of peroxide upon the ulcer is to deposit upon it a thick film of albumen; this should be allowed to remain for about half a minute of less; then continue the spraying till a large tubefull has been used (one ounce); as the sore progresses the spraying causes a good flow of rich arterial blood upon it, which merely shows returning healthy conditions.

The treatment is entirely painless, and the patients do not experience any annoyance or inconvenience whatever while carrying the disease, and freely express themselves as well pleased with the effect.

No internal medication during this stage is given. The iodol powder is used only as an antiseptic, to protect the sore from external inflence until it is sprayed again the next day, keeping the sore in as good a condition as it is left by the spraying, which must be done once every day until the ulcer is healed.

This method of the treatment of chancre has been, in my hands, the best and most successful of all the methods that I have heretofore adopted.

OBSTETRICS AND GYNECOLOGY.

Ligature of the Broad Ligament in the Treatment of Fibroid Tumors of the Uterus.—Dr. H. Martin has recently communicated his experience in the treatment of uterine fibromata by the use of the ligature, in cutting off their nutrient feeders.

Martin's method is as follows: He carries his ligature up over the broad ligament, by way of the vagina; by which he includes, more or less, of the ligament. Now drawing on the ligature, the upper margin of the broad ligament is brought lower down in such a manner that at this stage a second ligature can be applied sufficiently high to include the main trunk of the uterine artery.

The process is repeated on the other side in a similar manner.

He has treated five cases of fibroids in this manner.

In the first the patient had a large bleeding tumor, which was growing rapidly. Only one ligament ligatured. After operation, hemorrhage ceased and augmentation in volume arrested, but it has not diminished in size.

Second Case.—Voluminous fibroid; great pain; hemorrhage abundant and constant; patient unable to leave the bed; double ligature of broad ligament. Immediate disappearance of pain and arrest of hemorrhage.

Third Case. — Interstitial fibroid; same treatment. Hemorrhage diminished. Volume of tumor same.

Fourth Case.—Large fibroid. Treatment the same. Six months after operation amelioration considerable. Menses normal and abundant.

Fifth Case.—In this instance an attempt was made to remove the tumor by a laparotomy; but, owing to extensive adhesion, it was found quite impossible. A month later the arteries in the broad ligament were ligated, when atrophic changes followed in the tumor, and all exhausting bleeding ceased.—*Gazette De Gynecologie; Times and Register.*

Examinations U. S. Army Medical Corps.—In view of the possibility of the reduction of the medical corps from one hundred and twenty-five to ninety assistant surgeons, by action of Congress at its present session, and to save possible loss of time and expense to indicate if such action be taken, the examinations appointed for March and April, 1894, will, by order of the Secretary of War, not be held until further notice.

It is probable that if the Corps should not be reduced, the Examining Board will be convened in the fall of 1894. Of this, notice as early as possible will be given.

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NOTES AND ITEMS

The Influence of the Medical Profession on the Social Evil.—Prostitution has existed practically since the world began, and it is highly probable that its termination and that of the world will coincide (New York *Med. Journ.*). A subject more wrangled over, more discussed, and more utterly defiant of solution can not be imagined. It has vexed reformers and philanthropists ever since the world contained such men. It has had its defenders, too. Idealists and dreamers have theoretically trimmed it and restricted it, and controlled it; lawmakers have practically outlawed it and then "regulated" it. And what has been the result of it all? Absolutely nothing. It continues, it flourishes, it even grows. Driven from its open and mercantile position by spasmodic and evanescent "revival" and "reform" movements, it but spreads in secret places only to break forth with renewed life when the reformer shall have grown tired of his hopeless task.

Are we, then, to accept the thing as necessary and consequently leave it to itself to grow and flourish unrestrained? Surely not. Necessary it may be, since evil and depravity seem necessities, but necessary in no other way; and as we fight other evils surely this too must be fought. How, then, shall this fight be carried on? Religion doubtless has aided and will aid, and the better education of the masses will do still more. From the law little can be expected;it may keep the evil from being publicly offensive, but, if it prohibits, it but scatters and does not cure; if it "regulates" and "protects," it but encourages. There is one class of men whose power in this question is greater than that of all others—the physicians. Their relations with their patients and their influence over them enable them to be powerful either for good or for evil as they please, and if not actively for good, then are they passively for evil. But shall we make of each doctor a preacher and a missionary? How also can he do this good?

There is a well-founded idea in the popular mind, especially in the minds of young men, and one too often used as an excuse for debauchery, that coitus is necessary for health. Often, too, this idea is not only allowed by physicians to exist, but even encouraged, if not actively, at least passively. That coitus is not necessary for health is proved beyond doubt, not only by the highest medical authorities, but also by every man's powers of observation and common sense. That so erroneous and false an impression as that of the physiological necessity of coitus should prevail constitutes an affront to our professional dignity, and each one of us owes it to the profession and to himself to resent and destroy the imputation of complicity which it conveys.

This, then, is what we as physicians can do to help control the evil: We can collectively and officially declare that sexual indulgence is not necessary for health and thereby destroy the possibility of the silly excuse so often given for depravity. Better yet, we can, each one, in his practice, use our efforts to destroy an impression so false and yet to the young so dangerous,while we point out the dangers and consequences so often the price of illicit venery.

Compression of the Umbilical Cord During Delivery By Forceps. — Dr. Swayne, the *Lancet* states, has recently again directed attention to the danger to which the child is exposed during delivery by forceps from pressure of the extremities of the blades on the umbilical cord, should it be so situated as to be compressed when the forceps has been applied. In a former communication on the subject Dr. Swayne instanced a hundred and fifty-three cases of forceps delivery. In twenty-three of these the child was either born dead or died soon after delivery; in four out of these twenty-three cases he attributed the death to compression of the cord by the forceps—that is to say, this injurious compression had been noticed in the proportion of once in thirty-eight cases. Since the time when this series of cases was published Dr. Swayne has had seventy-one forceps cases, with ten deaths of infants, and among these ten stillbirths there were two cases in which the child's death was due to pressure of the forceps on the cord. In this second series, then, the accident in question occured once in thirty-five cases—not very different from the frequency noted in the preceding series. Spiegelberg's estimate of the fetal mortalty in forceps cases is seventeen per cent. It certainly seems to be the fact, as Dr. Swayne says, that this particular danger—compression of the umbilical cord by the forceps—has not received perhaps so much attention as it deserves.

The Microbes of Scorbutic Gingivitis.—A recent number of *La Medicine Moderne* contains the result of Babes's latest experiment in this direction (New York *Med. Journ.*). The studies were made in three typical cases of scorbutus. Small portions of tissue from the gums, also specimens of blood, were submitted to microscopical and histological examination. There was a diminution of the red globules, with marked leucocytosis. The microscope revealed a characteristic bacillus, elongated, thin, undulating, and forming thick masses. In the tissue the same colonies existed to such an extent as almost to form a false membrane. In connection with the peculiar bacillus numerous other bacteria were present, particularly a streptococcus. Inoculation of animals with the culture substance produced death with typical lesions of scorbutus, Autopsies and microscopical examinations disclosed the characteristic bacillus in great numbers in certain localities, such as the lungs and their capillaries, the tissue of the gums, and the viscera. They were not found in the hemorrhagic effusions. The cultivation of the bacteria pre-

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sented great difficulties on account of the presence of the streptococcus. It was found that an injection of the cultivation of streptococcus alone did not produce the typical disease, but with the suspected material from the scorbutic gingivitis death resulted from hemorrhagic disease. Babes has not yet finished his experiments, but he is under the impression that the bacillus is one peculiar to the buccal region, and that in consequence of a depression in the general health these bacteria take on active changes producing the typical lesions. Again, it might be possible that the gingivitis was due to the presence of the streptococcus, and the general scorbutic symptoms to an invasion of the suspected bacillus through the mucous membrane.

Phonographic Otitis.—A new competitor for public patronage has made his appearance during the last year or so at the street corners and unoccupied shops. He is the proud possessor of a diminutive machine provided with octopus-like prolongations which hang down gracefully along its sides and ends, and its very appearance is calculated to rivet the attention of the passer-by. This is the latest form of Edison's wonderful phonograph, which after having for years been seen little of outside sceintific societies and evening parties, has now been popularized on a large scale. It cannot be denied that the entertainment is well worth the price charged per seance. One has only to push the xylonite extremities well into ears, and then on touching a spring one is treated to band music, orations, humorous recitals and the whole, or part, of a very extensive repertoire, as per contrast. As a means of educating and amusing the public nothing could be better, but every medal has its reverse, and the phonograph is not exempt from the common failing. Our attention was called to this "reverse" by several cases in which patients with catarrh and even suppuration of the external ear have dated the onset of the affection from their interview with the aforesaid phonograph. One hardly needs a medical education to appreciate at once the gravity of the risks incurred by pushing into one's ears a nozzle which has been used by a motley crowd, possibly only a few instant previously. When one reflects upon the very large proportion of people who suffer from one form or another of suppurative disease the danger, nay the certainty, of the transfer of the materies morbi is apparent. In many cases the matter thus introduced into so sensitive an organ as the ear is of such a virulent nature that no spesial predisposition is necessary on the part of the recipient to insure immediate irritation, followed in all probability by more or less serious local mischief. Every medical man is cognizant of the risks entailed by suppurative disease of the ear. So grave is it, even in comparatively mild cases, that life insurance compainies usually hesitate to accept a proposal from any one thus afflicted. Hence it is sufficient to call attention to the danger to insure that intelligent persons will think twice before listening to a public phonograph, though for the matter of that the risk is not materially less when the exhibition takes place in a drawing room instead of at a street corner.—*Medical Press.*

Compression of the Phrenic Nerve.—Dr. Bidon, of Marseilles, had recourse recently to digitial compression of the phrenic nerve in two cases of spasm of the glottis, imitating thus the treatment of Professor Leloir, of Lille, for obstinate hiccough. The first case observed by M. Bidon was that of a young, hysterical girl who, after a convulsive attack, was seized with spasm of the glottis so violent that her life was in danger (*Medical Press.*) The practitioner buried his index finger between the origins of the sterno mastoid muscle, by which means the phrenic nerve was compressed. Almost immediately the patient began to breathe, and continuing the digital pressure for the space for one minute, all symptoms had disappeared. The spasm returned at intervals sudsequently, but the same treatment proved to be efficient. The second case was that of a man already suffering from ataxy. He was sudddenly siezed with a feeling of constriction of the larynx, and in a few seconds fell off into a semi-asphyxiated condition. The attacks occured every ten minutes. Digital pressure of the phrenic nerve produced an immediate cessation of the spasm, but when the finger was removed it returned. However, by persisting in this treatment the man recovered completely. These cases would go to prove that the above treatment can be relied on in spasm of the glottis, but its action must be indirect, as the nerve pressed does not control the larynx.

Prevention of Tuberculosis.—Vickery (Boston *Med. and Sug. Jour.*) in a paper on the above subject first calls attention to the mortality of phthisis, which remains practically the same as it was years ago. He thinks that our enthusiasm over the discovery of the cause of tuberculosis has caused us to lose sight of the hereditary and acquired predisposition to the disease. "Even weeds must have soil to grow in." Granting, however, the importance of climate and heredity, possibly no one doubts that the complete destruction of the bacillus tuberculosis would eradicate the disease. Raw milk from tuberculous cows may occasionally cause the disease, though the flesh of such animals, if inspected, is harmless. The main source of danger lies in the sputa and the pus of tuberculous sores. These may become dry and spread through the air.

Behrens sums up the necessary means for its prevention as follows:

1. The public should be enlightened.
2. Sputa in public places should be minimized or rendered innocuous.
3. The streets should not be allowed to be dusty.
4. Clothing and houses should be disinfected.
5. There should be public hospitals for the tuberculous.
6. Tuberculous patients should not follow avocations that may endanger others.

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7. Tuberculosis in cattle should be under control of the government.

A corollary to these rules is the report to the Board of Health of cases of tuberculosis.

Bowitch (*Ibid.*) believes that environment is a great factor in the causation of tuberculosis. He believes that tenements should not be tolerated in cities. Children should be taught in school of the danger of spitting in houses and in the street. He believes we must be cautious about declaring tuberculosis to be as contagious as small-pox and scarlet fever. It is an infectious disease, but not to the same degree as the others, and the conditions are very different. It would have a depressing effect on patients with incipient phthisis, to be treated as though they had a highly contagious disease. He always directs his patients not to use handkerchiefs but to use cloths or paper-cups which can be immediately burned. White (*Ibid.*) believes that tuberculosis of the integument can very readily cause tuberculosis of internal organs either in the patient or his friends. He believes tuberculosis should be put in the same category as leprosy. If the same methods were applied it would soon be eradicated. Olis (*Ibid.*) believes that, considering the varied means of contagion, it is wonderful any of us escape. He believes one of the great needs is hospitals under State or national care where consumptives can be treated. Greenleaf (*Ibid.*) uses lintine cut in squares for the reception of the sputa. This is rolled in wads and placed in a paper bag, the whole being burned upon the first opportunity. He suggests that these napkins be used by all patients who are compelled to expectorate much. Bowditch (*Ibid.*) wished to impress his views as to the reporting of cases to the Boards of Health. "With caution and with rational methods I believe an immense deal of good can be done, but we should keep within bounds." He believes it nonsense to class tuberculosis with scarlet fever and small-pox.

Pancreatic Colic.—The *Gazette hebdomadaire de medicine et de chirurgie* contains an abstract of an article by M. Mirmich, published in the *Berliner klinische Wochenschrift*, in which the author relates the case of a man, sixty-eight years old, who was subject to attacks of hepatic colic, followed each time by the expulsion of typical calculi of cholesterin (*N. Y. Med. Jour.*). After a time the character of the colic had changed; the pain under the left ribs and in the epigastrium having spread to the shoulder-blade, there was no icteric coloration, the stools remained colored, and the urine contained no biliary pigment. A daily examination of the stools, made during the last attack, revealed concretions and small calculi of a peculiar character. They were malleable and easily crushed between the fingers, and presented a smooth surface on being cut. They contained no crystals or morphological substances; they dissolved in chloroform, and, after combustion, left a residium containing acid carbonate and acid phosphate of calcium. According to the author, these characteristics suffice to distinguish the calculi in question as the second variety of pancreatic concretions. They might be taken for intestinal calculi, but the concomitant existence of colic confirms the diagnosis of their pancreatic origin.

Cincinnati, Ohio, Academy of Medicine.—The annual election for officers for the Academy of Medicine was held March 5. Dr. Southgate, a graduate of the Woman's Medical College, was elected Corresponding Secretary.

The other officers elected were:

President—E. G. Zinke.

First Vice President—Joseph Eichberg.

Recording Secretary—David De Beck.

Treasurer—Dr. George E. Jones.

Librarian—Miss Glaezer.

Trustees—Dr. John A. Murphy, W. P. Dandrige and James T. Whittaker.

The Academy is in a properous condition. The report of the officers, the valedictory and inaugural addresses were given on the 12th, and the banquet was held on the 15th at the Gibson House.

Dangers of Tinned Foods.—Notwithstanding the repeated warning to the public by both the medical and law press with regard to the dangers which attend the use of tinned foods, cases are constantly occuring in which death may be traced, either directly or indirectly, to the ingestion of articles prepared in this way. On Saturday last Dr. Danford Thomas held an inquiry at the Islington Coroner's Court into the death of a boy who purchased a box of sardines for which he had paid 2½ pence, eating the whole of the contents. The lad died on Wednesday, January 24, from the effects of acute inflammation of stomach and bowels. Much of the potted stuffs which are sold at a low price is prepared abroad, and after passing through the hands of the wholesale agents in this country is sold to numerous purchasers, who affix various labels upon the tins, and the same goods may be sold to the public under the names of different brands.—*London Lancet.*

Poisoning By Home-Made Wines.—The *British Medical Journal* says: "On this subject we have received rather a startling communication from Mr. G. A. E. Roberts, of Twyford, Hants. He has had over thirty cases, during the last twelve months, of lead poisoning from drinking home-made wine and beer, brewed in glazed earthenware pans. He is sure that these only represent about half of the cases, as many are not sufficiently ill to seek advice. According to Mr. Roberts, if other country districts suffer in the same proportion, there must be somewhere about 50,000 cases a year in England. He points out that if the use of lead in glazed pans was prohibited, or they were marked in some way to show that it was unsafe to brew in them, a great amount of sickness would be prevented. Notices might be posted up in villages calling attention to the danger of using these vessels for such purposes."

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VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit, to insure this, a clear and concise history of the case is esssntial, in order, either, to make a correct diagnosis or to give a satisfactory reply.—[ED.

Asthma.—J. C. Berne, in *The Veterinary Journal.* says: A case which came under treatment at Hilsea, June 5, has convinced me that asthma should be classified as a disease *per se* in the horse; and that, consequently it is incorrect to make it a synonym of broken wind.

This morning the patient, a gray mare over sixteen years old, was sent to the infirmary stables from the riding school where she showed symptoms of great distress leading to the opinion that she was suffering from congestion of the lungs.

When I saw her, one would be inclined to think that this diagnosis was not far off from the mark; for there were the hurried respirations and flapping nostrils, so far indicative of hyperemic congestion.

Against this idea, however, I found that the pulse was comparatively undisturbed numbering 47; temperature 100.8°; respiration, 32. These were of a wheezing character simulating capillary bronchitis, and there was a muco-purulent discharge from the nostrils. The mare had an anxious look but not very pronounced and when at times she went to the door of the box, she evinced a rather playful mood towards the patient in the one next to hers.

There was no change next day. On June 7, I was obliged to visit an out-station and consequently did not see her that day, but on my visit next morning I found her all right—pulse, respiration, temperature, etc., normal.

The veterinary history sheet of the mare has no record of any previous attacks like the one under notice; nor any as affecting the air passages. From inquiries, I ascertained that during the past eight months or so she had been sent from the riding school on account of her having shown symptoms which were marked by urgent distress. They passed off quickly, lasting only for a few hours, never for a day; and for this reason, I suppose, not brought under my notice.

That asthma is a separate and distinct disease in the horse, must, I am of the opinion, be recognized. In the symptoms I have given here, there is an absence of the most important features which mark congestion of the lungs; and the transitory nature of the illness puts it out of the question to identify it and broken wind as one. The treatment the mare received were occasional doses of spts. eth. nit., and spts. ammon. aromat.

Philadelphia receives daily a large consignment of milk from a herd of cattle owned by one of her most prominent citizens, among which there are a large percentage of tubercular animals, even though the owner has been cognizant of the fact for years.

QUERIES.

I have a filly, coming two years old, that has an enlargement on the face just below the eye as large as the half of a hen egg. It came there about two months ago, is very hard and has been discharging pus lately. Any information through the columns of the MEDICAL REVIEW will be thankfully received.

A. J. S.

The enlargement is due either to ulceration at the root of the molar tooth immediately under the enlargement, or an abscess has formed in the nasal sinus. If caused by the former the offending tooth must come out; if the latter, the bone will have to be trephined, the debris removed the wound to be dressed antiseptically.

Medical Association of Georgia.—The forty-fifth annual session of the Medical Association of Georgia in Atlanta, Ga., on April 18, 19, and 20. The officers were:

President—W. H. Elliott, M.D., of Savannah, Ga.

Vice-President—G. T. Miller, M.D., of Americus.

Second Vice-President—H. McHatton, M.D., of Macon.

Treasurer—E. C. Goodrich, M.D., of Augusta.

Secretary—Dan H. Howell, M.D., of Atlanta, Ga.

The Association of Military Surgeons of the United States.—The fourth annual meeting of the Association of Military Surgeons of the United States, will be held in this city May 1, 2 and 3, 1894. A brilliant and able literary program will be presented. The evenings will be given up to social entertainments. Transportation will be satisfactorily reduced on all railroads to and from this meeting, and all the hotels in the city will give greatly reduced rates. The Ebbitt House will be the social headquarters. A large attendance is anticipated, and a cordial invitation is extended to all to be present.

GEORGE HENDERSON,
Chairman Committee of Arrangements.

Washington, D.C., March 1, 1894.

CAREFULLY PREPARED STATISTICS show that the death ratio by sun strokes is greater than that by freezing. To better condition one's self for the siege of hot weather that will be along soon, the baths of Hot Springs of Arkansas are extremely beneficial.

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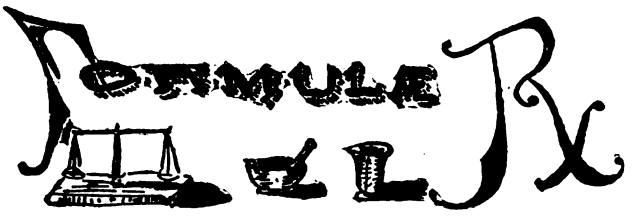

Apoplexy.

℞ Ether. sulf., - - - - - - - - - ℥ss.
Camphor pulv., - - - - - - - - - ℥j.
M.
Sig. For subcutaneous injection.

Alopecia.

℞ Extr. jaborandi fluid., - - - - - - fℨj.
Tinct. cantharid., - - - - - - - fℨij.
Bay rum, - - - - - - - - - fℨiv.
M.
Sig. Rub in the scalp twice a week.

℞ Bals. Peruv., - - - - - - - - fℨij.
Ol. ricini, - - - - - - - - - fℨj.
Alcohol, - - - - - - - - - fℨiij.
Tinct. canth., - - - - - - - - fℨss.
M.
Sig. Rub well into roots of hair night and morning.

Lumbago.

℞ Potass. iodid., - - - - - - - - ℥ij.
Neurosine, - - - - - - - - - fℨiv.
M.
Sig. Teaspoonful to a dessertspoonful every three to four hours.

Chronic Menorrhagia.

℞ Fl. Extr. Ergot (Squibbs), - - - - - ℥j.
Tinct. cinnamoni, - - - - - - - ℥ij.
Dioviburnia, - - - - - - - ad ℥xij.
M.
Sig. Dessertspoonful three or four times daily.

Strangury.

℞ Decoct. uvæ ursi, - - - - - - - - fℨv.
Potassii acetas, - - - - - - - - ℥ss.
Tinct. opii, - - - - - - - - - ℥j.
Syr. scillæ, - - - - - - - - - ℥j.
M.
Sig. Teaspoonful three times a day.

Hydrocephalus.

℞ Potass. iodide, - - - - - - - - ℥ss.
Aq. destill., - - - - - - - - fℨiij.
Syrup. menth pip., - - - - - - - - fℨj.
Tinct. digital., - - - - - - - - ♈j.
M.
Sig. Half a tablespoonful three times a day.

Prostatitis.

℞ Sodii salicylate, - - - - - - - - ℥j.
Antipyrine, - - - - - - - - - ℥ss.
Extr. hyosciam., - - - - - - - - gr.v.
Syr. simpl., - - - - - - - - - fℨj.
Aq. menth. pip., - - - - - - - - fℨiv.
M.
Sig. Tablespoonful every two hours.

Hay Fever.

℞ Antikamnia, - - - - - - - - - ℥j.
Tinct. cardam. comp., - - - - - - - ℥iij.
Syrup. cort. aurant., - - - - - - - fℨj.
Aq. destill., - - - - - - - - fℨiij.
M.
Sig. Half a tablespoonful one to three times daily.

℞ Labordine, - - - - - - - - - ℥ss.
Divide in dos. No. vj.
Sig. One to three powders daily.

Hematuria.

℞ Tinct. secal. cornut.,
Tinct. digital.,
Tinct. ferri chlorat., - - - - - - aa ℥ss.
M.
Sig. Twenty drops three times a day.

RAILROAD NEWS

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E. B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

VII—The Uses and Relative Values of Antiseptics (Cont.)

Oxygen has no great power of destruction of bacteria unless *nascent*—that is, freshly generated. The common belief is that all oxygen under all conditions is possessed of marvelous powers over germ life—such is not altogether the case. Indeed, as we have said, the presence of oxygen so far from being restrictive is absolutely necessary for the development and growth of all aerobic species. Nascent oxygen, on the other hand, is a potent agent—indeed it is to the virtues of the element generated in this peculiar condition that potassic permanganate, and other oxy-antiseptic substances owe their entire antiseptic powers. Duclaux says that oxygen has the power of destroying bacteria but that it is exceedingly difficult to make an application of the substance to man except in the form of "oxygenated water" (it is thus that he designates hydrogen peroxid) which, as he says, has not always given the most happy results to those using it. Indeed although hydrogen peroxid is a valuable antiseptic and deodorant its germicidal value is highly overestimated.

Ozone.—It was formerly supposed that this allotropic modification of oxygen would prove to be a valuable antiseptic agent but unfortunately for its reputation in this respect recent experiments show that it does not possess the anticipated activity—indeed that it possesses little value from a practical standpoint.

Lukaschewitsch found that one gramme in the space of a cubic metre utterly failed to kill anthrax spores even in twenty-four hours. So much for its vaunted activity. Then also, Sonntag, Friedlaender, Nissen and others secured negative results in their experiments upon the germicidal activity of this substance. So far from being the valuable agent previously supposed, a careful consideration of all of the experimental data leads one to the conclusion that, as a germicide, ozone is utterly devoid of practical value in therapeutics and disinfection. It is possible that the splitting up of a molecule of ozone may yield us either nascent oxygen or else a mixture of molecular and nascent oxygen, thus:

$$O_3 = O_2 + O$$

in this case whatever germicidal action may ensue is due not to the ozone, for it has been destroyed the moment that the molecule O_3 has been decomposed, but to the nascent oxygen set free. Ozone then would have less virtue than any of the various processes by means of which nascent oxygen itself is generated.

Paracresolal.—This substance, also called *Cresalol*, is paracresolic salicylate and is represented by the chemical formula $C_6H_4OH.COO.C_6H_4CH_3$. It occurs as a whitish crystalline powder with an odor like that of salol, it is insoluble in water but slightly soluble in alcohol. This substance, which is strongly analogous to salol (phenylic salicylate) in its therapeutic functions, is used more largelv, as is salol, as an intestinal antiseptic in doses of from three to thirty grains *per diem*.

Phenol.—(See carbolic acid).

Phenocoll.—This substance is also termed *Amido-para-acet-phenetidin*. It has been more largely used, not only itself but also in the form of the hydrochlorate or hydrochlorid and salicylate (Salocoll), as an antipyretic. The acetate and carbonate have also been used for this same purpose. Certain investigators have called the attention of the medical profession to the antiseptic value of the substance. Dr. Beck of New York conducted experiments with a view to determining the exact value of such properties of the substance. He found that phenocoll excelled phenacetin, acetanilid, and iodol in such activity and indeed even excelled iodoform to which he considered it superior otherwise on account of the ready solubility of phenocoll, its freedom from odor and irritating properties and its freedom from toxic properties. The substance occurs as a white crystalline powder readily soluble in water or alcohol but very sparingly soluble in benzol, chloroform or ether.

Phenolid.—A 50 per cent mixture of acetanilid and

Patent 1-90816

sodic bi-carbonate; it seems to have passed entirely from use.

PHENO-SALYL.—This substance is not a definite compound but a mixture of four or five substances. The formula is as follows:

Carbolic acid, about	9 parts.
Lactic acid, "	2 parts.
Salicylic acid, "	1 part.
Menthol, "	1/10 part.

The menthol is added to the combined acids which are heated up to the point of liquefaction. The mixture is said to be soluble in water to the extent of making a 4 per cent solution. The formula has been somewhat extended by the addition of eucalyptol to the other ingredients; this is mixed in small quantity along with the menthol and then the whole resulting mixture is mixed with four times its volume of glycerin. The formula was introduced by Dr. Christmas after some experimentation at Pasteur's Institute in Paris. Dulerly reports its successful use in various uterine affections, in gonorrhea and as a wash for rectal sores and ulcerations. Yersin claims that it is especially effective against the bacillus of anthrax—indeed he gives it high antiseptic power which, if present at all, must be due to the large amount of carbolic acid (about 75%) present in the mixture; it must however be inferior to carbolic acid when combined, as has been suggested, with other acids of higher activity, such as hydrochloric or boracic acids—indeed in the latter case an excellent substance results. The latter fact has at last been properly appreciated and a combination of carbolic and boracic acids has been put upon the market under the name of *Sennine*—named after Senn, who has done so much for the advancement of antiseptic principles in American surgery. For a full description of this substance see the article Sennine under its proper and appropriate heading. Because of the introduction of such superior and more valuable compounds Pheno-salyl and analogous substances are passing out of general use—indeed Pheno-salyl has already done so according to Squibb.

PHOSPHORIC ACID.—H_3PO_4. This substance, the ordinary tri-basic or ortho-phosphoric acid, hardly needs description. Kitasato hss conducted experiments with a view to a determination of the germicidal activity of the substance, using an acid which contained 152 milligrams of acid per cubic centimetre. A solution containing three-tenths of one per cent (.3%)of this preparation destroyed typhoid bacilli in from four to five hours while a solution of .183 per cent strength (that is, slightly more than one-half as strong) killed the spirilla of cholera in the same time.

PICROL.—This substance is *Di-iodo-resorcin-mono-sulphonic acid.* It is a new antiseptic, said to contain aboubt 52 per cent of iodin, and is described by Darzens and Dubois as possessing great potency. It is prepared by adding, while constantly stirring, an alcoholic solution of iodic acid and iodin to resorcin-mono sulphonic acid, produced by the action of concentrated sulphuric acid upon resorcin. The potassium salt of this substance is usually described as existing in the form of colorless, odorless crystals with an exceedingly bitter taste. These crystals are readily soluble in water and the ordinary solvents. It is usually considered non-toxic but its reckless use is not without danger. It is too soon to express an opinion on the status or value of the substance as no clinical reports of its use have been collaborated as yet.

PIPERONAL.—$C_8H_6O_3$. This substance is also termed *Heliotropin* and is obtained from piperic acid by oxidation. It usually occurs in the form of white and scaly crystals which are soluble in alcohol and ether but are insoluble in water. At present the substance is more generally employed in the arts, in the manufacture of perfumes, though its use as an antipyretic and antiseptic has been suggested; such use has been largely restricted by the exceedingly high price of the substance. When administered it is usually given in single doses of about fifteen grains.

POTASSIC ACETATE.—$KC_2H_3O_2$. This substance is the potassium salt of acetic acid, analogous to plumbic acetate ("Sugar of Lead") which is the lead salt of the self-same acid. It is hardly necessary to describe its chemical and physical properties. Suffice it to say that Koch found that a saturated solution of the salt in water failed to kill anthrax spores in ten days.

POTASSIC ARSENITE.—This substance, or rather the potassic hydrogen arsenite which has the chemical formula $KHAsO_2$, is used in medicine under the name of "Fowler's Solution." It is an acid potassium salt of arsenous acid. The substance has been found to possess absolutely no germicidal action. It may be slightly antiseptic however for Miquel has determined that it is so in the proportion of 1:8.

POTASSIC DI-CHROMATE.—$K_2Cr_2O_7$. This substance, which exists in beautiful yellowish-red crystals, was supposed to possess active germicidal properties but the experiments of Koch demonstrate that a five per cent solution failed to destroy anthrax spores even after two days exposure. Miquel has determined, however, that it is antiseptic in the proportion of 1:909.

POTASSIC BROMID.—KBr. This substance is more familiarly known and used as a nerve sedative or a hypnotic but Kitasato has proven that it also possesses antiseptic and indeed even germicidal properties. He found that when typhoid bacilli and cholera spirilla were immersed in a solution containing from 9 to 10.6 per cent of potassic bromid they failed to grow. Indeed they were killed when exposed for four or five hours to the action of solutions with strengths of 10–12 per cent.

POTASSIC CARBONATE.—K_2CO_3. Kitasato has also proven the antiseptic and germicidal action of this substance. He found that the development of typhoid and cholera germs was prevented by solutions containing as small an amount as .74–81 per cent and indeed even killed by five hours exposure to the action of a one per cent solution.

POTASSIC CHLORATE.—$KClO_3$. This substance is probably more familiarly known to many of us as chlo-

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rate of potash, in common use for the treatment of the various inflammatory conditions of the naso-pharynx. Its efficacy in such affections together with their frequent micro-organic nature led many to suspect that the drug had a specific action which was due, it was thought, to a specific action of the substance upon the germ directly. Contrary to the general belief, the substance is devoid of any germicidal power. A careful consideration of the experimental data now at our disposal forces this conclusion upon us. Sternberg found that a four per cent solution failed to destroy or kill the *Micrococcus Pasteuri* even after an exposure of two hours to its action. Koch also found that a five per cent solution failed to kill anthrax spores in five days.

Potassic Chromate.—K_2CrO_4. This substance is apparently no stronger than the chlorate of potassium, for Koch found that a five per cent solution failed to kill anthrax spores in five days, as was the case with the chlorate.

Potassic Cyanid.—K (CN). This substance seems to possess little or no germicidal power—indeed Miquel gives it the same power in this respect as potassic dichromate, that is it is antiseptic in the proportion of 1:909.

Potassic Hydroxid.—KOH. This substance is more familiar to many, especially those who studied Chemistry when the old system of nomenclature was in vogue, as "caustic potash" or as potassium hydrate. Sternberg demonstrated that while an eight per cent solution was unable to destroy the pus cocci in two hours a ten per cent solution of the same substance was able to effect this result in the same time. Kitasato found that an .18 per cent solution would kill the typhoid bacillus in from four to five hours while a .237 per cent solution was required to effect the same result in the same time with cholera spirilla. This fact presents a curious and interesting condition. Usually the spirilla of cholera are less resistant than the bacilli of typhoid fever but here we have the reverse true; as a rule the cholera germ is especially susceptible to the action of acid antiseptic solutions. In this case we have an alkaline substance and the spirilla are less susceptible to its influence than the typhoid bacilli.

Potassic Iodid.—KI. This substance, more commonly called iodide of potash, is used frequently in the treatment of certain stages of syphilis and also of rheumatism, etc. It has been determined that it possesses slight germicidal properties though these are not present to a marked extent. Koch demonstrated that a five per cent solution failed to destry anthrax spores in eighty days. The typhoid bacilli and the cholera spirilla fail to grow in an eight per cent solution, but are destroyed by five hours exposure to a 9.23 per cent solution. Miquel has determined that it is antiseptic in the proportion of 1:7, a very low power.

Potassic Permanganate.—$KMnO_4$, or in the older system $K_2Mn_2O_8$. The experiments of Jaeger show that a one per cent solution is not reliable for the destruction of pathogenic bacteria but that a five per cent solution is very effectual, although it does not kill the bacillus of tuberculosis. Miquel has determined that it is antiseptic in the proportion of 1:285.

The experiments of Kelly, Welch, Robb, Ghriskey and others, at the Johns Hopkins University, upon the various cocci and the germs usually found upon the hands and beneath the nails of physicians and surgeons, indicate that exposure of the hands to the action of a saturated aqueous solution of the substance with a further bath in a saturated aqueous solution of oxalic acid to remove the stain of the permanganate and to reinforce its germicidal action was by far the most efficient means of sterilization of the hands—especially if preceded by a thorough scrubbing of the hands and nails with brush, warm water and common soap. They found by rigid experiment that this was far superior to the action of corrosive sublimate as used in Fuerbringer's method, so commonly resorted to in obstetrical and surgical practice for the sterilization of the hands of the operator. Many operators of advanced opinions are now adopting the permanganate method so highly favored by Kelly.

Pyoktanin.—This is a name patented by Merck for the two anilin dyes more commonly known as *methyl-violet*, or yellow pyoktanin, and *methyl-blue* or blue pyoktanin. The substance occurs as an odorless powder which is soluble in alcohol and soluble in seventy-five parts of hot and fifty parts of cold water. This substance has had remarkable exaltations and damnations in its short career as an antiseptic. (See *Anilin dyes*). Certain oculists and laryngologists have claimed to obtain benefit from its use. Roswell Park and others say that its use is disappointing if not entirely worthless, which latter term he thinks more nearly describes the value of the medicament. Dr. Doering claims very favorable results from its local use in diphtheria. Goldschmidt has pronounced it useless in *Lepra tuberosa*. N. S. Roberts says that "it is of much less value than the standard remedies now in use, but is worth thinking of when these fail."

It has the great disadvantage of highly coloring the skin or clothing, being an anilin dye and having all of the intense coloring power peculiar to that class of substances. It not only stains the skin and clothing but the dressings and the hands of the operator himself. This produces exceedingly disagreeable results. Moreover, prolonged contact with certain of the anilin dyes has been productive of various eczematous conditions of the skin.

Pyrozone.—This is a name given by its manufacturer to a preparation of a concentrated solution of hydrogen peroxide in ether. It is claimed that it contains about fifty per cent of the peroxid; it seems to be an efficient agent as far as hydrogen peroxid can be, having all of the properties of that substance which is its active principle.

[TO BE CONTINUED.]

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A Discussion on Dr. Paquin's Paper: "The Basis of Personality and the Responsibility of Criminals."

BY D. F. MURRELL, M.D.,

Read before the St. Louis Medical Society, April 7, 1894.

There are two points brought out in Dr. Paquin's paper and in the discussion, which I wish to consider, viz.: heredity and environment, as factors in crime.

No person will deny that a child inherits, from ancestors, peculiarities of mind and temper, as well as physical resemblances, that heredity plays an important part in making the personality of every individual, is beyond controversy. That it makes the character of the individual, is not true. Character and racial or family traits are two quite distinct things. Racial peculiarities are deep-rooted and, without miscegenation, are transmitted for all time. Family and personal characteristics are the individualities of mind and temperament, peculiar to persons related by consanguinity. Ethnologically, the negro can never be a white man, but he may make a good citizen; nor the Chinaman an Englishman, though he may be learned, refined and moral.

Diversity in nature does not destroy harmony. No two persons have the same mental peculiarities or ability, any more than they have the same physiognomy, yet we judge of their mental and physical equalities by the same standard.

Man is the only creature on this earth, in so far as we know, that possesses a moral sense and the capacity to judge of right or wrong. He is, furthermore, alone in that he has a conscience, thereby his sense of right and wrong is impressed upon him and guides him in his conduct. Man's moral nature is extremely impressible for good or evil. It is the first to receive the imprints of good or bad lessons after entering upon life. All men are born with a taint of sin or, in other words, a weakness of the moral nature. Some, by hereditary defects of mind or nervous organization, are more easily led into error than others. All, however, are creatures of education. The moral sense is as much subject to education as the intellectual faculties. Conscience is the sum total of the moral training, which acts as a balance wheel to conduct. Character is that which a man is by means of education and practice, and is based upon conduct. "As a man thinks, so he is." This is his character. Wrong conduct makes a bad character, and when it amounts to flagrant violation of law and order, we call it crime. Now, no criminal ever became so at once, nor was any one ever born a criminal. All studies of this subject show that, step by step, persons are led into crime. There is a continually strengthening chain of evil influence going before every heinous act. The murderer has cultivated a bad temper or blunted his moral sense in lesser crimes. first; the seducer has yielded to his baser passions, until they weigh more powerfully with him than the parietal interests and rights of the woman; the rapist has drowned all his moral sense in his base animalism. It is easy to fall a prey to the baser side of our nature. Nothing but the cultivation af the loftier sentiments will save any man or woman from a life of shame. Hence, man is made subject to law, religious and civil, to deter him from acts that will lead to his degradation and ruin.

Every person born into this world brings with him certain tendencies to evil; some, from inheritance, have less power to resist these tendencies than others, but all are susceptible of civilization. We become acquainted with this world and our relations to it only by the lessons we receive in early life. Our conception of right and wrong, our love of the good and hatred of the evil, are matters of early training. Among men such ideas are largely relative; that is, one man's standard will differ greatly from another's, according as he has been taught.

Children are seldom better than those who rear them. The stream cannot rise above its source. It is not inheritance, but precept that shapes the character. A child may inherit a diseased body or a weak mind, or an unbalanced nervous system, but it does not inherit crime. Proper training will remedy these defects of the physical and mental organization, in large part at least. Some of the best men I have ever known, inherited the most unfortunate tendencies, but by the education of their higher faculties, they became the masters of the weaker side of their natures and developed into well-balanced men. Some of the worst criminals have had an unspotted heritage. I know a lovely, refined and pure woman, picked up from the streets of Chicago when almost a babe and likely born in crime, adopted, reared and educated by good people, who, but for the Providence, might have been in the slums of that city to-day.

"Train up a child in the way he should go, and, when he is old, he will not depart from it," was not intended to escape those of unfortunate lineage. The child is an imitator from infancy, and will be following right in the footsteps of his parents from the time he can walk. Hence, generation after generation of criminals, as in the noted instance, familiar to every one, that has figured for seven generations in the criminal calendar of New York. On the other hand, look at the long lineage of pure and illustrious people which history records, and our own acquaintance brings to our knowledge. Why so many preachers in certain families, and why so many doctors in others, merchants, tradesmen, etc. Is the protoplasm of a doctor of a peculiar kind, that his offspring should want to study medicine? Are the nerve cells of the preacher's child so constructed as to contain the impress of teaching the gospel? Is it not clearly the result of example and precept on the growing boy? So with crime. It is hard to produce a good man or woman with criminal parents. I know two families, the father and head of each being faultless in every respect, except that they will not pay their honest debts. Their children are cultivated, but there is not a boy

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among them whose obligation for a debt is worth a bauble. Is this inheritance?

Another factor in crime is environment. The environments of climate and soil modify mental and physical man, but it does not determine his moral character. The savage is, more or less, a slave to his environments, but enlightened man becomes the master of his environments. Civilized and christianized man, barring racial peculiarities, is the same everywhere on this globe. There is one environment, however, by which we are all powerfully influenced, and that is social environment. It is the strong influence that is shaping the world to-day. Few men have the power to rise above it. It is the rock on which all parental teachings may be foundered, or fondest hopes in promising youth blasted. It is the treadmill of which all unwittingly as it were, place their feet and follow it around. Fortunately, it is divided into grades. We have the high grade where the pure in life walk; and blessed is the man whose good fortune it is to fall in with such. Then there comes another grade, a step lower, where living is not as circumspect. Further down the scale the scene darkens, until we come to the vilest walks of life, the low dives of sin in our large cities.

Crime is committed by two supposed classes, the responsible and irresponsible. Just where to draw a line between these two classes, has ever been a difficult problem. We humanely exempt the insane, and charitably throw a cloak over the sins of the paranoiacs, but we often forget to inquire in how far the person is responsible for his perverted mental condition. The number of murders committed by unquestionable cranks, is comparatively few. The mass of crime is done by a responsible, or should be responsible, class of people. Directly or indirectly, the bias of men and women lead to insanity, murder, suicide, arson, embezzlement, seduction, rape and the rest of the long list. There is a lack of moral tone in the case of mankind. Conscience is blunted, so that men come to believe and practice lies. Life is a sham and personal honor is of no value with such men. Our ideas of personal liability are wrong. Liberty has come to signify license, and self-indulgence is the outcome. Self-denial, this maker and builder of strong men and women, is not taught as formerly. Sensuality is cultivated and encouraged. Saloons and bawdy houses, gambling dens, dissipations of every kind, indulgence in every vice, drag men and women down, until they become a reeking mass of moral rottenness, without concern for the rights or wants of others. There is too great a lack of regard for religious and civil law. To ignore the former begets a disregard for the latter. Our laws are not as faulty as their enforcement. What is the remedy? I do not believe in subjecting every young man and woman to the examination of a board before being permitted to marry. It will do no good. To begin after birth is soon enough. Throw around the criminal classes better influences. Help them to help themselves. Remove the sources of temptation. Do away with saloons, bawdy houses, gambling devices, all the way from stocks and race courses to the nickel in the slot; suppress variety theaters, where the youths educate the baser passions. I do not believe in strictly paternal government, but why suffer temptations to be placed before men and women that will lead them to crime, and then punish them for it? Reformation of the fallen classes is successful when rightly conducted. Unfortunately, those engaged in it are opposed, on every hand, by those licensed to deal out death and destruction to their fellow-men, and their efforts are put to great disadvantage. Few bad criminals are ever reformed, hence, they should be dealt with according to law, but not suffered to escape the law, as is too common. As all men are born equal before the law, so should they stand or fall equally before the law. There should be no distinction because of social or financial standing.

Idleness and evil are closely related. Every man should have, not only a visible but a legitimate means of support. This looks like a great undertaking but it is the only remedy. There are two ways to bring about such a reformation: one is by legal enactment, the other is by moral suasion. Force rarely makes men better. Christianity always does. A lawyer who will ridicule the laws of God, is unfit to instruct in the laws of man. But for the heaven of good there is in the world, I fear Dr. Paquin's pessimistic views of the final mental and moral imbecility of our race would be correct. But it is not going to be so. Nature's balance wheel will right matters. The wicked and dissolute will either be reformed, or will become extinct by their course, and the survival of the fittest will obtain.

The Germicidal Action of Gallanol.—A recent number of the *Lyon Medical* contains the report of a series of exhaustive experiments by MM. P. Cazeneuve, Rollet, and Nicolas to ascertain the germicidal value of gallanol. The action of the drug tested on five microbes, that of anthrax, the Staphylococcus aureus, the Bacillus pyocyaneus, the Eberth germ, and the Bacillus coli communis. The experimenters arrived at the conclusions that gallanol in excess completely destroyed the vitality of the micro-organisms, that in a relatively weak solution, while their growth was not meterially affected, their pathogenic powers were destroyed. It was shown that the drug was an invaluable remedy in the vegatable parasitic disease; while destructive to the micro-organisms, it was perfectly nontoxic to the general system. Gallanol possessed such active germicidal properties that there was no doubt that it could be employed with great benefit in the infectious diseases as an abortive remedy.—New York *Med. Journ.*

MALARIAL FEVERS can be contracted in almost any section but can be thoroughly stamped out of the system at only one place, Hot Springs, Arkansas, with its unrivaled system of baths.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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Microcidin.

The effective topical application of bactericidal remedies to the genito-urinary tract is encumbered principally by the sensitiveness of the parts and the toxicity of the most effective antiseptics. Carbolic acid, bichloride of mercury and nitrate of silver are not borne by the mucous membrane of the urethra and bladder in solutions of sufficient strength to produce a bactericidal action. The same is true of chloride and sulphate of zinc, potassium permanganate, and many other antiseptics, although all these remedies will produce beneficial effects in urethritis and cystitis, even in weak solutions. Pyoktanin has been recommended, but in our hands the irrigation of the bladder with a solution of 1:10,000 of this remedy was followed by excruciating pain and its use therefore discontinued. The most effective drug for the irrigation of the bladder and urethra for the purpose of sterilization is probably a concentrated solution, *i. e.*, four per cent solution, of boric acid. It is unirritating and can therefore be left in contact with the mucous membrane for a longer time than other drugs, it has no toxic properties, does not corrode the instruments nor stain the clothing.

But there are instances in which the irrigation of the parts cannot be carried out either on account of objections on the part of patients or because there is a stricture or hypertrophied prostatic gland, in which case the internal administration of antiseptics must be resorted to. Also in affections of the ureters and pelvis of the kidney, which cannot ordinarily be reached by irrigation, we have to rely upon the latter method of treatment. Various remedies have been recommended for this purpose. In our hands the internal administration of benzoate of soda, chlorate of potassium and salol have yielded good results whenever antiseptic treatment was indicated. The latter two remedies have to be used cautiously if the kidneys are affected. Naphthol and biborate of soda and boric acid have been used, but were abandoned on account of derangements of digestion, which they are prone to produce.

A remedy which has recently found much favor with French authors is microcidin. It is prepared from naphthol and sodium hydrate. Its antiseptic power is twenty times greater than that of boric acid and ten times greater than carbolic acid. Thirty grains, taken twice in twenty-four hours produce no disturbance of digestion. It is easily soluble in water, has no toxic nor caustic properties, does not corrode instruments nor stain the clothing. A solution of three parts to one thousand parts of water is of sufficient strength for antiseptic and surgical purposes. The irrigation of a solution of this strength is claimed not to be painful to urethra and bladder and is, in cases of chronic cystitis, to be preferred to a saturated solution of boric acid. Internally administered it has the advantages over other remedies that it may be used in cases of albuminuria, and organic lesions of the kidneys and that it does not disturb the digestion. Cases of suppuration in the upper urinary passages have been reported where after a dose of thirty grains of microcidin, twice daily, the drug could be detected in the urine twenty-four to thirty-six hours after its administration, by means of bromine water, and for an additional thirty-six hours the urine did not show any signs of putrefaction.

During the hot summer months fifty grammes of urine, to which four grammes of a 0.4 per cent solution are added, remains, according to experiments made by Dr. Babboux, free from bacteria. The urine had also retained its acidity and had no bad odor. Alkaline fermentation of the urine became interrupted and the same interruption takes place in the decomposition of purulent urine. In purulent cystitis irrigation with a solution of 3:1,000 causes the urine to become clear and odorless in a shorter time than by irrigation with a concentrated aqueous solution of boric acid.

The favorable results obtained with this drug by various authors should encourage further investigation of its usefulness as an antiseptic in affections of the genito urinary tract and its efficacy, when internally administered, should particularly be noted.

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The Prevention of Consumption.

A very radical view with regard to the prevention of disease has been expressed in a paper read before the New York Academy of Medicine by William Warren Potter, M.D., of Buffalo, who advises, for instance, the prevention of inter-marriage of the children of tuberculous parents. Why not subject all candidates for marriage to an examination for any disease that may interfere with the happiness of the offspring? Does not the life in large cities with its amusements, struggle for existence, chase after worldly goods and excitements of all kinds so undermine the health that the second or third generation become dwarfs in body and mind and susceptible to all kinds of infection? To be consistent the whole present mode of living would have to be changed. To remove the predisposing cause is probably in all instances the most important. If it were possible to enforce a sensible way of living the exciting cause of disease, disease germs, would be check-mated. Up to this time and probably in all times to come the exciting cause of disease will, in all probability continue to carry off those that are incapable of resisting it, in consequence of a weakened constitution. The paper referred to advocates, however, in many respects, what we have advocated on various occasions, with regard to the prevention of consumption. Dr. Potter says:

"While it is true that much has been done of late to control the spread of consumption, and to abridge its ravages in localities, yet how many physicians are ready to admit even now that it is an infectious malady, and that it may be conveyed to a healthy person who is habitually in the atmosphere of a consumptive? If it were possible to apply the knowledge which a few of the more advanced—a small minority (? Ed)—of our profession now possess with reference to the propagation of consumption and to disseminate this knowledge among the mass of physicians, it would be serving humanity in the highest possible way to concentrate the efforts of the entire force toward preventing the spread of this direful disease. In order to do this effectively it would become necessary at the outset to establish an absolute inspection of all foods of an animal nature as well as supervision of the care of all animals that furnish food for mankind, with a view to a rigid condemnation and destruction of such as prove unfit.

Again, if we should undertake to prevent the spread of consumption by the application of all the intelligent means at our command, it would further involve imperious supervision over the food that our cows eat and their stable care, as well as a like supervision over the animals that are slaughtered for our daily consumption. It further also would involve the inspection by a competent veterinary surgeon of all cows that afford milk supply to our cities and villages and of all the animals that are slaughtered for purposes of food, to the end that every tuberculous beast shall be killed and its body cremated. I consider it essential that the latter order shall be enforced with great exactitude. If any portion of a tuberculous animal, excepting its hide, horns, and hoofs, be permitted to enter the avenues of commerce there is danger of the propagation of disease, and I know of no way to effectively abolish such danger excepting to imperiously insist upon the incineration of tuberculous carcasses.

"But we must not stop here: our food supervision must extend to all domestic birds, fowls, and animals whose milk or flesh we use for food. The quantities of tuberculous food consumed by the people assuredly are enormous, and it will require the most rigid system of inspection and supervision by most skilled, honest, and well-paid officials to interrupt, cut short, or prevent traffic in these dargerous and unwholesome aliments.

"Besides this the circumspection and control of railway and steamboat travel as well as hotel life would become necessary, and this would simply arouse an opposition from every traffic official and landlord in the country, to say nothing of the indignation of travelers themselves. Yet none such would complain at the exercise of an absolute authority with reference to restraining the transit of small-pox patients, or those affected with diphtheria or cholera. Nevertheless, these maladies, one and all, have not at present one scintilla of the importance connected with their destructive powers that has consumption.

"Another most important step toward the prevention of the propagation of consumption consists in the prohibition of the intermarriage of tuberculour subjects. If a man has tubercular disease he should not be allowed to marry a healthy woman, and thus subject her to the danger of contracting the malady from cohabitation with her consort, to say nothing of the liability of propagating tuberculous offspring. For like reasons a tuberculous woman should be prohibited from marrying a healthy man. But if there are cogent reasons why these should not intermarry there are still more forceful arguments that may be offered against the intermarriage of two tuberculous indivduals—that is to say, a man and a woman who either have tuberculous disease or who have come from tuberculous families. I make this assertion at random without desiring at this time to enter into a discussion as to whether the laws of heredity govern in consumption or not. But of this I am certain, that for a man with existing tubercular disease to marry a woman of tubercular parentage would be tempting fate with a rude audacity deserving a better cause. The offspring of such a marriage, to say the least, would offer a favorable soil for the growth of the tubercle bacillus. I earnestly hope that before long an enlightened legislature will enact statutes that will prohibit such marriages.

"Still another step in the direction of prevention consists in the establishment of separate hospitals for consumptives and the adoption of measures looking toward their isolation. But here most bitter opposition will be encounted from those who are governed by sympathy, affection, and kinship. Nevertheless, it were well-nigh impossible to prevent the spread of this fateful malady

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unless the methods and habits of life of its victims can be assuredly controlled. It is admitted by those most familiar with the methods of the propagation of the disease that the sputum of the consumptive constitutes a focus of special danger. Hence, to deal intelligently with the question of prevention, the sputum must be sterilized as soon as it is thrown off. Nor will it answer to deal with it in a half-hearted, indifferent, or slipshod manner; the sterilization must be absolute and immediate, and this can only be accomplished under the eye of a trained expert who knows no law but that of perfect cleanliness and absolute sterilization, and who will not be diverted from the end in view by fear, favor, or affection. I know of no way to effectively enforce rules to prevent the propagation of consumption, except to remove tuberculous persons from all possibility of contact, direct and indirect, with the healthy community.

"Without doubt, independently of the infection by food, the most serious menace comes from the respiration of infected dust, and it needs no specious ratiocination to prove to such an audience as this that the one great means of infecting dust is through the sputum of consumptive patients. It has recently been said by a writer in the *British Medical Journal* that it would be well for the medical profession at large to recognize the infectiousness of tuberculous sputum and the danger of letting it dry into dust. Marpman (*Centralblatt f. Bacteriologie und Parasitenkunde; Med. Chron.*) examined the dust of a frequented street in Leipsic and found the bacillary remains on about 80% of samples of dust examined. From the researches of Marpman we are taught that street dust may easily prove a source of infection, and that people should be taught to desist from expectorating in thoroughfares or public places. Houses that have been occupied by consumptives, too, should receive the most thorough renovation before further use.

"It can not be denied that already much has been done to limit the spread of tuberculosis, as a careful examination of statistics would prove, but these we have no time here and now to enter into. The result already accomplished have been outside of the prevention of intermarriage, inspection of food, attempt at isolation, or sterilization of sputum, and have been mainly achieved through the adoption of improved sanitary regulations—better nutrition, purer air, and other influences of the like character.

"I stand here to plead for the enforcement, in addition to these well-known sanitary measures, of the prevention of intermarriage, of the rigid inspection of animals that furnish food, and the isolation of tuberculous patients, and I ask this academy to stand together as one man until is has brought about shuch a change in public sentiment and improved statutory law as shall make all these conditions possible. I believe it will be yet just as possible to quarantine and control the methods and habits of life of the consumptive as it is now those of a small-pox, yellow fever, or cholera patient. At all events I certainly hope that an enlightenment of the people on this subject will lead to such results."

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, April 7, 1894.

The Vice-President, HEINE MARKS, M.D., in the chair.

DR. WITHERSPOON presented, for Dr. Hulbert, a specimen of

MULTIPLE FIBROIDS OF THE UTERUS,

exhibiting that organ, which had been removed on the previous Thursday by Hegar's method. The patient was a married lady, 36 years old. Two years ago a small fibroid was removed by electricity. The present growths developed very rapidly, and all three varieties were represented; the sub-mucous, interstitial and subserous. Besides the fibroid growths there were present a large ovarian cyst of the right side, and five or six small ones on the left. No difficulty was experienced in removing the uterus, adhesions being marked but not very firm. The Tait clamp was used before amputation, and allowed to remain in position, the stump was treated extra-peritoneally.

The discussion of Dr. Paquin's paper, "The Basis of Personality and the Responsibitity of Criminals," was taken up.

DR. HUGHES discussed the subject of insanity, dwelling, in particular, upon the influence of medical expert testimony, formerly and now, upon the decisions of the courts, in criminal cases where the sanity or insanity of the offender was to be determined. Although in many instances, the courts still cling to the old rulings, based chiefly upon theoretical grounds, by which they determined the mental responsibility of a criminal, the time has come when recognition is given to the testimony and opinions of medical men; when jurists have come down from their proud position which they maintained towards the medical profession, when they dared to say to medical men, in questions of insanity before the courts, that they had better be at home attending to their patients; they are now willing, and it is the custom of all courts, to hear expert medical testimony in questions of mental aberration. Some courts still cling to tests of insanity based upon theory and not clinical observation. If a man is enabled, in the abstract, to determine the question of right and wrong, if he can repeat the decalogue, if he can, as an English jurist said, count up to six, and add two and two together, he is in a condition of responsibility. We, as physicians, have modified these rulings of the courts. We know that mind and brain are correlative, as far as mental manisfestations are concerned. We judge of the sanity or insanity of an individual by the action of his brain, whether it

be healthy or unhealthy, rational or irrational, by a comparative study, based upon clinical observation and research, of the symptomatology of disordered cerebration as compared with normal brain functioning. We know that the hereditary factor must be considered; that insanity is the product of more than one generation or predisposing ancestral factors. We concede that there is a spirit in man, and that this spirit was given him by the Almighty, and yet, it is not necessary to deny the existance of this spirit, to accent the fact that mental symptomatology is dependent upon the condition of the physical organism. Furthermore, in determining a patient's responsibility for his acts, we must not forget the generating effect of inebriety in the parents, which often handicaps the individual by producing conditions from which he cannot escape, but of which he had no part in establishing. Then there are factors, in the human organism, which tend towards evolution and others which tend towards involution. All disease is an involution of the organic type, a tendency to retrogade change, and if this tendency becomes combined with adverse environment, the person will certainly act out of harmony with the normal type of individuals. The courts must face and accept these facts. It is not a question of sentiment, but of disease which has caused the departure from the normal. It is a question of direct type change or disease change, which takes place through ancestral influences, as in congenital idiocy or imbecility due to parental alcoholic excesses, or through an abnormal organism influenced by unnatural environments.

On the other hand, we must not think that there is no home for an individual who comes into the world burdened with the heritage of mental aberration. He may overcome this tendency and evolve a new organism. This is the tendency in all disease, and insanity is no exception. The speaker could not admit that all crime is a disease, nor that all crime is insanity.

Dr. Murrell read a paper in discussion of the subject (See page 324).

Dr. Outten did not like the pessimistic views expressed by the essayist in his paper. The fact that the insane asylums are full to overflowing, in certain few great cosmopolitan cities where the race for wealth or for supposed hidden treasures constitutes one mad rush, is no proof that the rest of the world, where a better equilibrium exists, will follow in the same footsteps. He did not think that Dr. Murrell's statement, that no person is born morally wrong or a criminal, is correct. Just as physical characteristics are inherited, so are also the moral and mental tendencies. Among the Australians, for instance, there is no such thing as morality. Surroundings and teachings doubtless exert great influence upon the character of an individual but, because that is so, it does not necessarily follow that the influence of heredity is absent, The influnce of heredity is shown in the records of courts, where we find kleptomaniacs and criminals of all classes running through generations and in which this tendency is displayed even in infancy. He cited a case of a baby boy who manifested a criminal tendency from infancy, and while still a very small child, succeeded in cutting off the finger of his brother.

Dr. Love said the discussiou reminded him very much of the debates in primary schools, where it would be resolved, "That water is more important to life than air." In his opinion, heredity and environment are equally responsible in the moulding of character. While the discussion may lead to some new ideas on the subject, he did not think that a solution would be found. The point of greatest importance is to find a remedy for the existing evil. He believed that, up to the present time, we had been working in the wrong direction. We have been punishing the errors, whereas our efforts should have been to correct. A good place to begin with the training of a child is at home. Parents should endeavor to educate the child, as to right doing and wrong doing, by example and precept, and should try to convince it that it is for its own good to do right rather than wrong. If it is in errors, it should be gently, kindly and tenderly corrected and not revengefully punished.

The closing of saloons and bawdy houses, as suggested by Dr. Murrell, is impossible. They will crop out somewhere. We are wrestling with the problem now and have come to regard it as a necessary evil; necessary to insure the safety of our wives and daughters. The proper remedy is to restrict and regulate them. This was done some time ago in this city, but maudlin sentiment of the clergy and women overturned it, and by so doing they committed a crime. So too in regard to the gambling instinct. It exists in every man and manifests itself in every stage of life. It is with the boy at school playing marbles, and business is based upon it. It cannot be supressed, but it can be regulated by proper legislation.

There is in every human nature, a Dr. Jekyl and a Mr. Hyde, and we should teach our children to repress the Mr. Hyde and encourage the Dr. Jekyl of their natures. In a lecture upon this book, given by Mr. Harrison, the final triumph of Mr. Hyde over Dr. Jekyl was ascribed to the absence of the enobling influence of woman in the book. And that, in the doctor's opinion, is true.

Dr. Funkhouser thought that the great trouble with the 19th, century is its materialism. It does not accept, at present, the distinction between the animal and spiritual part of man. The Buddists are far ahead of Western men, and by that he ment Europeans as well as Americans; they make distinctions which are boyond us, and we can get some ideas of the difference between physical and psychical men, from their teachings.

The influence of heredity, in the production of criminals, is shown by the famous case in New York, there, for seven generations, the members of one family have been criminals. He again called attention to the necessity of beginning the education of the child before it is born.

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Dr. Kieffer thought we are all right in this matter

and all wrong. Everydody has said something in accord with his own ideas, and everybody has advanced ideas with which he could not not agree. In his opinion, heredity and environment play equal parts in the moulding of character. He called attention to one point, which he had had practically demonstrated to him while teaching school; namely, that a child would partake most of the peculiarities of that parent to whom it bore the closest physical resemblance. He had never known this rule to fail.

Dr. Paquin, in summing up the discussion, said that a number of points had been touched upon which he had not referred to in his paper. The theme of Dr. Hughes, had no connection with his subject.

He did not make the statement that criminals are born such, but that they inherited the basis of criminality, the criminal tendencies, which may develop. He again insisted that insanity is not oly on the increase, but in increasing in ratio to the population. As to the suggestion of Dr. Kieffer, whether a man is a free moral agent or not, he said that that condition obtains as long as he is sane. Free moral agency means the power of discrimination. A man who can do right or wrong if he wills it, is a free moral agent.

St. Louis Obstetrical and Gynecological Society.

Regular Meeting, Thursday Evening, March 15, 1894,

Pus Tubes.

Dr. Boisliniere requested Dr. Glasgow to report some case of pus tubes with which he had met.

Dr. Glasgow.—I am very willing to speak on this subject because there was in my office this afternoon a patient who had a typical case of this kind. Last July she was perfectly well, in the early part of July she went to Chicago, her menses commencing the day she arrived there, but she started to go around the fair. The flow ceased that night, and she had violent cramps. Fearful cramps and a severe dysentery set in. The dysentery lasted 24 hours and the cramps continued four or five days. She remained in bed four or five days. and then came home, still suffering. In August her menses came on again with cramps which were so severe that they prostrated her for two weeks or more; this recurred in September and she then called on Dr. Tupper and he examined her and introduced a sound.

Dr. Boisliniere.—Is she a maried woman?

Dr. Glasgow.—Yes, sir. After a day or two she had a discharge of purulent fluid and got relief, but it lasted only a comparatively short time. Then during October her pains came back and lasted the whole of October. She suffered feerfully the whole of October and Novem ber. In October and November the flow lasted only three or four days but she had violent cramps and pains.

Dr. Gregory.—Was there any fever?

Dr. Glasgow.—I do not know, I did not see her until Thanksgiving when she had very little fever; she had no rigors. I examined her and found a very hard mass to the right of the uterus; this was in November, a couple of days after Thanksgiving, I thought I could feel what I took to be an ovary, I did not think it was an ovarian tumor. It felt more as if there might be very deep fluctuation. The history and the location to one side of the uterus made me think it was tubal. If I had judged simply from the examination, I should have said it was a solid tumor, but the history told me there was fluid present. I dilated with a tampon of gauze for a number of days, and this gave a good deal of pain. She was then in bed and had been for two months. I think I dilated about six times without chloreform and it caused more pain than is usual in most such cases. In very few cases it hurts, but in this it did. I told her then I would give her ether and dilate very rapidly, which I did, until I could get my finger pretty nearly in, then I curetted thoroughly, washed out and packed with gauze again. The next day or the day after there was a discharge of fluid which saturated the dressing. I kept the packing up for a few days and kept everything aseptic and she had no pain since. I examined her a few days ago and there was no trace of a tumor, just a little thickening or sense of resistance on the side and no sensitiveness anywhere. I think she is pregnant; she having gone over her time about two weeks or so. To-day she brought me in another patient who has a collection of fluid in the left tube. This is probably a hydro salpinx; the ovary is in front and is easily felt, and there is a fluid mass which I take to be in the tube; it is barely possible that it may be ovarian, but I think not.

Later.—This patient was operated on (laparotomy) by another doctor and died the next day.

Dr. Ford.—Was there any discharge from the tube during the treatment?

Dr. Glasgow.—Yes. While the packing was in there, the discharge was so great that it saturated everything.

Dr. Dorsett.—Was it pus?

Dr. Glasgow.—Yes, not foul smelling pus. The woman has been perfectly well since—better than she has been for years.

Dr. Ford.—I had such a case lately which discharged without packing.

Dr. Glasgow.—I have had a good many of these cases. One was a very bad case, the result of gonorrhea. It was just before I went away, and I thought I would have to send her back home, she came from a distance town in the State; I did not want to see her because I was going away and she was no better. I went to see her and was amazed to find the tube had discharged freely, and emptied itself completely, and the woman was very much better; there was no pyo salpinx to be found. But I heard afterwards that she was not entirely well; that there had been a recurrence after I sent her home.

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Dr. Boisliniere.—Was it a discharge of pus?

Dr. Glasgow.—I think it was pus. The husband told me he had gonorrhea. I made a gradual dilatation. I did not use a metal dilator, but simply dilated by packing. I do not expect to perform laparotomy in any cases of that kind until I have given this plan of treat ment a thorough trial. I have used slippery elm tents that have been sterilized, shipping them in one after another; there is no pain, and after you have got dilatation you put in gauze.

Dr. Lutz —Why not use Sims' speculum?

Dr. Glasgow.—Then you have got to use an anesthetic and give the patient pain.

Dr. Lutz —It dilates as gradually as any other; you can give a slight injection, put the patient in Sims' posi tion and introduce the urethral speculum of Sims' and it acts very nicely.

Dr. Glasgow.—But it does cause pain. That would be my reason for using slippery elm tents until it is dilated. These can be used for treating endometritis also, I used gelatine bougies ten years ago and they caused great pain. I supposed last year there had been some improvement in them, so I got some more and used them. Symptoms got very alarming at times so I am done with them. They cause violent cramps and pains and sometimes almost cause peritonitis; they do not dissolve. So I think we can use the slippery elm tent or some other tent so as to hold this application in there foi a long time, and then we can draw it out.

Dr. Dorsett.—I would like to ask Dr. Glasgow whether he made any effort in packing the uterus to pack the uterine horn next to the tumor or whether he simply packed the whole uterus?

Dr. Glasgow.—I don't know exactly how you are going to pack one horn of the uterus without packing the entire canal.

Dr. Dorsett.—If it is on the left side, for example, and the woman is in Sims' position you can, by dilating the uterus, pack that horn by directing your pressure downward and toward her left side.

Dr. Glasgow.—I can do better with the speculum than without it.

Dr. Dorsett.—The objection to the tube or cervical speculum is that when you pass the applicator through the lumen of the tube you are not certain whether the applicator and gauze have passed the end of the speculum or not; whereas if you use the dilator with two or three prongs and dilate sufficiently large, you can pack the gauze in and use all that is necessary; and you can accomplish the feat of packing one horn and not the other. This discussion in regard to the use of packing with the object of dilatation of the tube is of course very apropos, but it only proves what I said two years ago, that the location of the tubal abscess should be the indication for the treatment. That was the title of the first paper I read on this subject: the "Location of tubal abscess as indication for the treatment." If it is near the fimbriated extremity of the tube, I do not believe it is possible to do away with the abscess by packing the uterus, but curetting of the uterus and packing is very beneficial in nearly every tubal abscess and in endometritis. I have in mind now a case of chronic endometritis that I have been treating for the past six or eight months of a woman who has been married twice; the first husband lived four years and the second five years and she has never been pregnant; she had a very narrow cervix and on introducing the probe she would scream with pain; when the probe had passed to the internal os, and upon withdrawing the probe there was always a flow of pus; in other words, her uterus was an abscess cavity. I tried to treat the case (because she did not want to have an operation performed) by making applications, but finally I told her that I could not treat her any longer unless she consented to an operation. This woman, while somewhat robust in appearance, was weak, and had had fever more or less all the time, and wore glasses and had been doing so for six years. I sent her to the hospital and dilated the cervix thoroughly with a dilator; I had to use considerable force in so doing, and packed the uterus as tight as I could; on the third day afterwards I took the gauze out and repacked it with very little trouble. In a weeks' time I discharged her from the hospital, but told her I would like to see her in a week or ten days. Yesterday she came to my office without glasses and said she did not need them any more. I was very much interested in this particular phase of the case and spoke to Dr. Ewing, the oculist, and the doctor's explanation was that she had a reflex trouble, causing dimness of vision and that when she was weak she had to wear glasses. Assigning as a cause of dimness of vision the constant drain upon her system.

On yesterdey I operated on a woman with a pelvic abscess. The case is one that was referred to me by Dr. Yarnall. He called me hurriedly to see the case five or six days ago and seemed to be somewhat uneasy about it, and seemed to think she had no accommodations and should be put in the hospital, and I sent her to the hospital. On making an examination I found a hard mass on the left side of the uterus extending down to within an inch and a half of the vulva. I was pretty well satisfied from the history of the case that it was of specific origin. Dr. Meisenbach happened to be at the hospital and I asked him to examine her and he was satisfied from the examination that she had a pus tube and was a case for abdominal section. I studied the case very thoroughly and gave her frequent doses of salts and the next day I found the mass was somewhat further up in the abdomen. It was still perfectly hard. On yesterday I put her under the influence of an anesthetic and I could feel a very distinct hard mass there that seemed to be as large as a fetal head, and Dr. Meisenbach and Dr. Yarnall said that the only thing to do was to make an abdominal section. I proposed to make an aspiration through the vagina first and if we found pus to open it and let it out, and if we found it necessary we could do a laparotomy and take the diseased tube out afterwards. We introduced an aspirat-

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ing needle and quite a flow of pus came out. I then passed in a Peasley's dilator and finally got into the abscess cavity and a very small flow of pus came away. I then introduced a bistoury and made a larger opening and in doing so I cut the uterine artery and a considerable flow of blood followed. I put a ligature around the mass that was surrounding the artery and checked the flow of blood, and then introduced a larger dilator and dilated to the extent of at least an inch. At least a pint of very foul smelling pus came out. I washed it out with peroxide of hydrogen and afterwards with bichloride of mercury, solution 1:4,000, introduced a drainage tube and fastened it in the wound. I do not think this case could have been benefited by dilatation of the uterus and packing the horn; in fact, it would have been impossible in this case to have done so for the reason that the uterus was pushed to one side and could not be pulled down, or if it had been, there would have been danger of lacerating the pelvic viscera or probably the peritoneum. Under the circumstances I did the best thing I thought to be done in that particular case. If I had opened the abdomen I would have had a great deal of pus to deal with, and pus that I could not have washed out by using any ordinary amount of water, and if I had used dry sponging I could not have gotten it out either and it would certainly have infected the whole peritoneal cavity.

Dr. Mudd.—I would like to ask the doctor how we can make a differential diagnosis between an abscess near the uterus and near the fimbriated extremity of the tube?

Dr. Dorsett.—By bimanual palpation. In an abscess near the fimbriated extremity of the tube there is a sulcus between the uterus and the mass and the uterus is more moveable. By the bimanual examination with two fingers in the vagina and the other hand above on the abdomen I believe we can in the majority of cases make a differential diagnosis between an abscess in the tube near the uterus and an abscess in the fimbriated extremity.

Dr. Gregory.—Suppose that the infective materials starts from the uterine end of the tube, it seems to me it must be a rare thing to have it traverse the entire length of the tube and develop into an abscess at the fimbriated extremity.

Dr. Lutz.—It seems to me that if the Fallopian tube were a straight line, a fixed cavity, with the infection in the uterus traveling through the horns into the tubes would infect the tubes and as a result would infect the entire tube, producing an inflammation. Now the anatomical fact is that the fimbriated extremity is considerably lower than the level of the uterus; the end of the tube dips down. I have seen only a limited number of cases whereupon I take it to limitation of the inflammatory area of the tube the pus accumulated near the uterine end; but in the larger number of cases that I recall, the accumulation of pus took place at the fimbriated extremity of the tube—that is the products of the inflammation found lodgment near the fimbriated extremity. In regard to the question asked by Dr. Mudd, I take in the vast majoring of cases it is a very difficult question to determine. If you have an extensive inflammation which extends, as it does in many instances toward the anatomical structure of the tube itself, I think it is almost impossible to make a differential diagnosis, because in those instances the septum or space, if you so call it, between the layers that form the ligament is infiltrated, it is thickened, and according to my experience it is almost impossible except in a limited number of cases to determine the anatomical location of the collection of pus. I think it is a wise step in some cases to pack the uterus and see whether the pus can not be evacuated but in a certain per centage of the cases I think it will be necessary to make an adbominal section for its removal. I recollect two cases in which the same difficuly referred to by Dr. Mudd occurred to me. One was a case in which I diagnosticated a double pyo salpinx and it was before the suggestion of Dr. Dorsett. The woman had fever and constant pain: there was a suspicion of infection from the husband, and I believed that I had before me a case of double pyo-salpinx on each side as large perhaps as three inches in diameter. As was then the accepted practice I suggested abdominal section to her, to which she submitted, and when I opened the abdomen I found that I did not have to deal with a pyo-salpinx at all but I had two cysts not connected with the fallopian tubes, lodged immediately at the side of the uterus. It was one of the cases in which I did not make a diagnosis and possibly could not. She had fever and that was one of the reasons which made up my mind that hers was an inflammatory condition of the tubes. I removed the cysts and she got well. There was no pus in the sacs however. Another case was one which I operated on for a lacerated perineum in a widow who had been under my care for this condition, and who was not above suspician. When she presented herself to me for examination I found on the right side a swelling about the size of a medium sized orange, the uterine body itself being fixed and extending posteriorly in the cul-de sac of Douglas was infiltrated. I will say in addition that this woman has such a laceration of the cervix as we see in innumerable cases. The infiltration did not extend anteriorly, and yet the uterine body was firmly fixed and I could put one hand on the outside and the fingers in the vagina and could distinctly feel this hard, fluctuating mass, and it entended along posteriorly in the cul-de-sac of Douglas and firmly bound the uterus in the pelvis, and of course the first thing that suggested itself to me was that here was a case of pyo-salpinx with a possible involvement of the surrounding tissue. She had been on her feet a great deal. I put her on her back, administered tonics and kept her quiet and gradually the entire tumefaction disappeared and without any discharge from the uterus; she had no *discharge*. If there ever was a discharge it was not observed. She was a woman sufficiently intelligent to observe it had it occurred; yet the entire swelling disap-

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peared. I kept her on her back several weeks. I should say we used douches about four times a day.

Dr. Glasgow.—Might not the discharge have come away in using the douche?

Dr. Lutz.—I think not. I was very much interested in noting whether or not there was a discharge and I believe her statement that there never was a discharge is correct.

Dr. Dorsett.—In regard to the question of differential diagnosis, this was discussed at the metting of the Southern Surgical and Gynecological Association in New York between Price and Collock of South Carolina; Price claimed that nobody could make such differential diagnosis and that it was therefore throwing away time and jeopardizing the life of the patient to try. Collock claimed that in isolated cases he was able to knead pus out of the tube into the uterus and into the vagina. I noticed this in a case which I studied very closely. The patient was easily examined having loose thin walls of the abdomen and I could outline the uterus very well; I could pass my fingers into the posterior fornix and almost feel them with the other hand on the abdomen in the cul-de-sac of Douglas; the tumor was continious with the uterine body; it was unilateral and after examining this womon several times by bi-manual palpaption. I examined here with the speculum and found pus in the vagina, I cleaned the vagina out thoroughly and then with the index finger of the right hand kneaded the tumor and in doing so forced the pus through the uterus in the vagina, now when I put the speculum in the vagina and retracted the perineum I again found pus; I washed out the cervix and again demonstrated the fact that by manipulation I could force the pus out of the Fallopian tube to the uterus and finally it came out into the vagina.

Dr. Mudd.—I think there is some question as to the ability of a practitioner to make a diagnosis as to the site of location of the abscess, because every one who has had any experience in these cases must have seen cases in which the abscess was situated close up to the body of the uterus and presented just such symptoms as the Doctor outlined, where we could still outline a distinct sulcus; the tumor overlapped the uterus coming close to it and leaving a sulcus between it and the uterus. I doubt in the great majority of cases the ability of anyone to determine whether it be an abscess of the fimbriated extremity or of the Fallopian tube. There is another condition which occurs very frequently, where in the middle portion of the tube or fimbriated extremity of the tube, the pus ultimately escapes from the tube and makes a sac for itself enveloping the tube and tissue of the board ligament; where we have one of those tense, firm sacs of pus that comes close up to the body of the uterus; they present symptoms that indicate the sac should be near the body of the uterus more clearly than where it simply involves the tube itself. It is a fact that they do sometimes discharge through the uterus occasionally; and we can take hold and massage them and get out the discharge from the uterine extremity, but I should think this was rather a dangerous experiment; I should hesitate to employ it much in that way. I have seen a number a cases that discharged through the uterus. When I operate on these cases I have an aspirator at hand and if I find a pretty big pus sac I empty it before I have determined just what to do.

Dr. Prewitt.—I saw a case not a great while since where a young woman had a distinct swelling in the pelvic region; it was evidently inflammatory and had existed for two or three years with a very distinct interval between the swelling and the uterus. I thought it was an inflammation of the fibriated extremity of the tube or the ovary or both and I was not sure that it was not confined to the tube for the reason that there was a very distinct interval one-third of my finger or more between the swelling and the uterus. I argued that if it was an abscess of the tube we could not drain it; and that if there was pus there, and the woman had been suffering for several years, the only way to get rid of it was to make a section. I told her that possibly it might require a long protracted treatment unless this was done and it was very doubtful; that the only certain way was to remove it. Now if it had been directly connected with the uterus; if it had been continous swelling in the line of the Fallopian tube, I should have looked upon it in a different way, but there was an interval, clear and certain fully the width of my finger between it and the uterus. I made an examination under chloroform and passed one finger into the rectum another in the vagina and determined the outline of the swelling which was as large as three inches in the board ligament and it was an inflammatory trouble connected with the outer portion of the tube or ovary, I could not determine which, but it was an inflammatory trouble of two or three years' duration and had given a good deal of trouble.

Dr. Frank Glasgow.—I wish to call attention to what I think is the prevailing opinion, and which I think is wrong, and that is, that the tube after the inflammation has passed into, and long, is closed. I judge that from what the gentlemen say. My idea of the inflammation is, that is not an adhesive inflammation at all, and we have no good reason to believe that when this inflammation exists the tube is closed. I believe it is not closed. Now in regard to puncturing these tubes, I will say that I do not consider it very dangerous; I do not think there is danger of puncturing the uterus or bladder, and in many cases it is perfectly useless to do more than make an opening and look after the drainage. There will be few cases where laparotomy is necessary. I have never seen the uterus or bladder or rectum punctured or injured in these cases. Some of these accidents are not infrequent during a laparotomy even by careful men.

Dr. Lutz.—What is the occasion for puncturing the tube through the vagina if the tube is patulous?

Dr. Glasgow.—If you have a large abscess you get better drainage through the puncture than you would through the tortuous canal, and we can get into it very readily, so I

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say in those cases I open directly and drain them directly rather than try to get drainage through the uterus.

Dr. Ford.—It is fully ten years since I operated on a large abscess by vaginal aspiration. She was in here yesterday and has been quite well mostly although she is a delicate woman. I opened it and established drainage and put in a tent. I knew nothing at that time about tubal abscess but regarded it as a peri ovarian abscess. I wish merely to call the attention of the Society to the anatomy of the tube from the uterus to the fimbriated extremity; you are all familiar with it, and no doubt the inflammation runs readily along the entire tube; I have no doubt when it is infected it does run from one end to the other; and the secretions necessarily drop to that portion which is lower than the other; this would be toward the fimbriated extremity, but of course it would extend until it gradually reaches the uterus. I think these abscesses are formed away from the uterus. In regard to the operation, I am well satisfied that there are a great many cases the virulence and acuteness of which require laparotomy, although of course it is possible to follow nature's hint, and in subacute or chronic cases which have gone on long enough for the abscess to nearly reach the uturus we can follow Dr Dorsett's method, dilating and getting rid of the pus as he suggests.

The American Medical Association.

San Francisco is justly proud of her harbor, and since it is probable that the delegates and visitors to the American Medical Association will be given an excursion upon its waters it will be of interest to many to learn something of its beauties. We will imagine we are upon one of the large excursion steamers and are starting upon our days outing. The usual rush through the gates for the boat at the last moment is over, the inevitable half-minute-too-late man has been left behind and is sorrowfully wending his way back to his hotel regretting the good time and the free lunch that have departed from him, and the boat with her load of guests has drawn out of the slip into the green bay, and with prow pointing northward is gathering headway for the journey.

It is not yet time for the usual afternoon breeze. The sun is shining bright through a sky that will rival in depth of color and purity of tone the more famous skies of the old world, to the right the green slopes of the Coast range of mountains, looking blue in the distance, rise gradually from the shore until having rearched the sky the vision is interupted, and the beyond is left to the imagination, while to the left the receding city with its undulating outline is growing gradually less distinct and its rumble and roar is being replaced by the sound of churning waters from the wheels and the hum of happy voices. On the upper deck and forward is a good position from which to note points of interest.

To the eastward is Goat Island. This was formerly called Yerba Buena, its present name doubtless arose from the fact that during the early forties it was used as a goat pasture. At present it is one of Uncle Sam's possession. The Oakland and San Francisco ferry boats run just south of this island and many tragedies are said to have occurred near its shores. Occasionally one reads in the papers of "the demon of Goat Island," if any are curious as to this legend, enquire of some native son or daughter and be enlightened. Alcatraz Island lies to the North. It belongs to the United States and is used as a fort and military prison. It seems too bad to appropriate so bright a spot to such use as the latter, but government and sentiment are not usually very closely related. Over to the left on the main shore is Fort Mason—commonly called Black Point, while further westward is Fort Point, backed by high bluffs that have recently been strongly fortified. The dirt mounds on their summits, covered with waving wild oats, look innocent enough, but hidden in their depths are engines of destruction so placed as to fully command the entrance to the harbor.

About equidistant between the forts—the Pacific Coast head quarters for the army is located. The neat quarters of the officers are almost covered by trailing vines and climbing roses that partly obscure their outlines. Soon after we have passed Alcatraz, all eyes will be turned to the westward to drink in the view presented. In the center like a mighty river lies the Golden Gate, beyond is the limitless expanse of the Pacific Ocean, to the North the Mission hills rise abruptly from the shore to culminate a few miles away in Mt. Tamalpais, while on the south the gentle slopes of the Presidis, dotted with evergreen trees, lead backward toward the city.

Our boat moves on and new scenes shut this one out, but the impression made will long remain.

With a long sweep in toward Saucelits—nestling among the trees—at the mountains base, we have turned to the East, and are steaming along past Belvidere and Tiburon.

Angel Island that we are now approaching is of some interest to this company of sightseers. Here is located the quarantine station, and perhaps we will be given an opportunity to land and make inspection, but probably our boat will be headed for Raccoon Straits through which we will pass and cruise about in the broad bay above.

Here we will have an opportunity to point out Red Rock, Two Brothers, Hen and Chickens, McNear's Landing—the most delightful picnic place on the bay—the Chinese village of shrimp fishers and other places with which we may be familiar.

Our objective point is Mare Island. This is the Government Naval repair and supply station for the Pacific Coast. Through the kindness of Surgeon General Tryon and Surgeon Wood of Mare Island, we will be permitted to land and inspect all that is of interest.

Many famous old vessels have been refitted here, and perhaps some are lying in the offing now.

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After having spent an hour at this place we will board our steamer and start on our return.

There yet remains much to be seen, but the sun is reaching over toward the west, and we must hasten or it may be dark before the circuit is complete. We steam back past Vallejo, Port Costa, with its immense grain depots; Berkely,our State University town; Oakland, the City of Churches, and Alameda, the charming residence suburb. It will be of interest as we cross the bay on our way home to notice the Spreckles Sugar refinery, the Union Iron works, where have been constructed such war vessels as the Charleston, San Francisco, and the Pacific Mail Steamship docks, where the Chinese Coolies were at one time landed by the thousands. The sun is dipping into the western waters, and as our boat glides into the slip, the twinkling lights of the city unite us back to our accustomed duties, refreshed and imigorated by our days outing, and ready for whatever entertainment may yet be in store.

R. L. RIGDON, Secretary.

Association of American Anatomists.—The sixth annual meeting of this Association will be held in connection with the Congress of American Physicians and Surgeons, May 29 to June 1, 1884, in the city of Washington, D. C. This will be the first meeting since that of December 27 to 29, 1892, at Princeton, N. J. The sessions will be held in the Preparatory Department of the Columbian University, H Street, between Thirteenth and Fourteenth, within a few steps of three lines of street cars, and only a few blocks from the principal hotels and Government Department.

Members who expect to attend will please notify the Secretary and forward to him the titles of papers, etc., which they expect to contribute. The final programme will be issued about May 1.

Thus far the following titles have been received:

Dr. Harrison Allen, University of Pennsylvania, "Morphology as a Factor in the Study of Disease." This paper will be read at the general meeting of the Congress on the afternoon of May 29. The discussion will be held by Dr. Thomas Dwight, of Harvard, Dr. Fred H. Gerrish, of Bowdoin, Dr. Frank Baker, of the University of Georgetown, and Dr. Burt G. Wilder, of Cornell.

Also by Dr. Allen two papers: "The Study of the Human Cranium," and "On the Shortening of the Face-Axis in the Evolution of the Mammalia."

Dr. Carl Heitzmann, of New York City, "Identity of Structure of Protoplasm with that of Striped Muscle."

Dr. B. G. Wilder, of Cornell, "Relation of the Olfactory to the Cerebral Portion of the Brain." Also, "Notes on the Anatomy of the Orang."

Dr. D. K. Shute, of Columbian University, Washington, "Perineum and Perineal Body."

Dr. Wm. P. Carr, of Columbian University, Washington, "Theoretical Anatomy of the Sympathetic System."

Papers are also promised by Dr. Thomas Dwight, of Harvard; Dr. Frank Baker, af Georgetown University, and Dr. D. S. Lamb, of the Army Medical Museum. The titles have not been reported.

It is requested that nominations and recommendations for membership be sent to the Secretary before the time of meeting.

D. S. CANE, M.D.,
800 10th St., Washington. Sec'y and Treasurer.

Missouri State Medical Association.—Preliminary programme of the thirty-seventh annual session of the Missouri State Medical Association, to be held in Lebanon, May 15, 16 and 17, in the Gasconate Gymnasium Hall Address of Welcome, by Hon. W. I. Wallace.

It is respectfully urged that members be at Lebanon for the opening hour.

Drs. E. W. Schauffler, C. Lester Hall, and J. E. Teft, Committee on Scientific Communication, urgently request all gentlemen proposing to read papers at the coming meeting to send the titles thereof, without delay to the Chairman, Dr. E. W. Schauffler, 1103 Main St, Kansas City, Mo.

So much of the programme as was made up by April 23, will appear in the May issues of the medical journals of the State for the information of members. The remainder will appear in the complete programme that will be delivered at the meeting.

In order to secure a place on the programme the titles of the papers must be in the hands of the committee by May 1.

Every physician in Missouri is respectfully invited to attend this meeting, which is expected to be one of the best ever held.

ROUTES AND TRANSPORTATION.—Lebanon is on the "Frisco" Railway and is reached via St. Louis, going south, and via Springfield going north. Members from St. Joseph, Kansas City, and all others from that direction may secure, we are assured, through sleepers from Kansas City to Lebanon, avoiding thereby a change of trains at Springfield. Members coming via St. Louis, may also secure special sleepers or use the daily sleepers or chair cars.

Frisco trains leave St. Louis for Lebanon at 8:25 A.M. and 8:30 P.M. Returning leave Lebanon 11:10 A.M. and 11:50 P.M. Frisco trains to Lebanon from Springfield leave the latter city at 9:10 A.M and 9:55 P.M. Returning leave Lebanon at 3:20 A.M. and 3:53 P.M.

RAILROAD FARE.—Negotiations to secure half fare for round trip have failed. One and one-third fare on the certificate plan is all that is granted. Persons paying full fare should take certificate from whom they buy tickets, which certificate properly signed by the Secretary of the Association will entitle them to one third fare to return.

HOTEL RATES.—The Gasconade, $2.00 per day. Full capacity over two hunered. By special arrangements, will make extra preparations to accommodate as many as the number of regular guests will allow at the time

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of meeting, The Laclede, $2.00 per day, may accommodate seventy to one hundred extra people. The Lebanon House, $1.50 per day, may accommodate fifty extra people. The Yocum House (near Gasconade), $1.00 to $1.50 per day.

The hall for the assembly is within a hundred feet of the Gasconade.

PAUL PAQUIN,
J. L. DAY,
J. C. MULHALL,
Committee of Arrangements.

ABSTRACTS

SURGERY.

American Achievements in Surgery. — What we may considered as the first epoch in American surgery was the American discovery of Etherization, which was affected conjointly by Morton, Jackson and Wells (Geo. F. Shrady in the *Forum*; *Med. and Surg. Reporter*). Until that time, almost within the recollection of the older practitioners of the present day, the patient who was the the subject of a surgical operation suffered untold tortures of pain during its performance, instead of being, as now, rendered absolutely unconscious during the entire ordeal. When a student the writer often heard the recitals of the experience of older men before ether was known. The vivid description by Valentine Mott, of the sufferings of the poor victims, would touch the sympathy of the hardest heart. To transform such ordeals of agony into peaceful, dreamless sleep was for American surgery a triumph second to none in the long category of its other brilliant achievements. In fact, it was the starting point of all the subsequent possibilities of almost miraculous ventures.

During the late war of the Rebellion America made her next grand record by notable work upon the battle-field and in the hospital. The major operations performed during that period were commensurate with the vast number of wounded requiring surgical aid. Never before in the history of any war were so many so successfully or promptly cared for. Indeed, after the elaborate records were finished, and the result published, it was asserted by a leading spirit in the French Academy that America held the surgical scepter of the world. Attesting the truth of this is the remarkable collection of specimens in the Army Medical Museum Washington, which is unequalled in variety and number anywhere on the globe. The elaborate histories of these silently impressive texts established new principles of procedure which were hitherto unknown to the scientific world, and gave American surgery a just recognition for originality of conception, boldness of execution and success of practice. With a training equal to any emergency, while ever ready to adopt and enlarge upon the views of others, she has not been slow in advancing on new lines and securing new triumphs. The aim has been to simplify methods, and thus give them a greater adaptability and a wider practical application. In the treatment of fractures, for instance, this is strikingly manifest in the discarding of cumbersome apparatus and the substitution of simple and more effective ones. There is hardly a bone in the body, which, when broken has not been benefited by the American plan of treatment. Notably prominent in this category may be mentioned fracture of the thigh and of the shaft of other long bones. It was reserved for Gurdon Buck, a former surgeon of the New York Hospital, to prove that fractures of the thigh could be most successfully and comfortably adjusted by replacing the complicated harness of straps, stretching screws, and heavy splint braces, with the simplest form of weight and pulley extentsions.

The demonstration of the utility of plaster-of-paris splints was likewise made by an American surgeon, the late Dr James L. Little, who years ago brought it to its present state of perfection. The same principle of fixation was also adopted in an original way by Dr. Lewis A Sayre, also an American, to the treatment of diseases and deformities of the spine, by encasing the trunk in a plaster corset. The simplicity and effectiveness of this treatment are now so well established that Sayre's plaster jacket is indorsed by surgical writers and used by surgical practitioner. The same may be said of his original treatment of the collar-bone, and of his methods of extension of hip diseases. The ready adaptability in the American mind to the notable advance in surgery has been shown in the matter of aseptic surgery first advocated by the distinguished Scotch surgeon, Sir Joseph Lister. During a visit to this country in 1876, Lister explained his doctrine, demonstrating its application, and proved its grand results. America was the first to feel the real impulse for good which this discovery made tangible. By its means operations became feasible which before were never dreamed of, and result were obtained which were previously beyond the reach of human endeavor.

Take the advances which have been made in abdominal surgery and for which America can claim no small share of credit. In fact, this country may be said to have originated all the wonderfull possibilities connected with this special line of practice. The first one who dared to invade the abdominal region with the knife, and lay bare the vitals, was a Kentucky surgeon, Ephriam McDowell. From the time of the successful performance of that operation in 1809, for the removal of an intra abdominal tumor a new field was opened for the mitigation of suffering and saving of life, the cultivation of which has prolonged the average human existence several thousand years. The work of McDowell when its importance was duly appreciated, opened up a new field of practice which has widened into a distinct and almost exclusive department of surgery our work

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has been fully abreast with that of our transatlantic brethren. In the treatment of internal trouble by instrumentation, many other important discoveries have been made in this country during the past few years. Sims's speculum is known and used throughout Christendom. Another equally famous instrument is Bigelow's lithotrite for crushing vesical calculi, and his ingenious evacuator for disposing of debris. Both of these instruments so revolutionized the old system of practice in the particular lines for which they are adapted that nothing now takes the place of the American contrivances. It is within a very short period that O'Dwyer's intubation tubes for the treatment of suffocative croup put in their claim for recognition, but they are now almost universally used in all class of cases for which they are so eminently suitable.

Muscular Ossification in Tabes.—Gowers does not allude to this condition, nor does Charcot in his account of trophic lesions of joints in locomotor ataxia. But Buzzard and Dreschfeld have each described a single case where there was ossification of muscle. The author showed the following case before the Sheffield Medico-Chirurgical Society:

This patient, who is a stonewaller, aged, 63, was admitted into the Sheffield General Infirmary on September 1, complaining of pain in right hip and knee. For the last twenty years he has been subject to flying pains in the leg and occasional slight swelling of the knee which he attributes to exposure, and which have been treated as rheumatism; otherwise his health has been good, and he has never been obliged to give up work. For the last year he has noticed that his gait was unsteady. Three weeks before admission he was roused by a very severe pain in the right leg, which he calls "cramps," lasting for five minutes, during which the limb was quite rigid and rotated outward. Since then walking has become more difficult, and he complains of a feeling of "looseness" in the right hip. There is no history of syphilis or injury and his family history is negative. His work is laborious and involves exposure to all weathers. He is very moderate drinker and does not smoke.

The most important physical signs are as follows: When lying on his back in bed a distinct swelling over the front of the hip joint is noticeable, and the foot is rotated outward. There is a diffused, somewhat elastic swelling in Scarpa's triangle, which has increased since admision. The lymphatic glands are slightly enlarged. In the upper part of the thigh, apparently in the substance of the rectus, is a bony process seven inches in length which is directed downwards and slightly inwards, it is roughly conical in shape and its upper end, which lies one and a half inches directly below the anterior superior iliac spine, is one and a half inches wide. From this point it gradually diminishes in size until it ends in a blunt-pointed extremity Except at it upper end, it is freely movable from side to side, but with the thigh flexed it becomes more fixed and its lower end appear to sink into the fleshy substance of muscle so that it can no longer be distinctly felt. The movements of the hip joints are more free than normal, and are accompained by distinct grating. There is no dislocation.

The muscles generally are soft and flabby, but not otherwise abnormal. The other joints are normal.

The heart and lungs are healthy.

The digestive system is normal, with the exception of occasional dyspepsia. He has had no gastric crises.

The urine is normal; there is a tendency to incontinence, patient having once or twice passed a small quantity of urine in his sleep.

Temperature normal.

The other signs of interest occur in the nervous system. The knee-jerks are absent. The pupils are slightly unequal, contract fairly on accommodation, react very little, if at all, to light. On accout of the condition of the hip-joint he is obliged to use a stick in walking, but even with this aid his gait is distinctly ataxic, and on standing with eyes closed and feet together he sways considerable. There is also slight ataxy of arms. No anesthesia can be detected, but when walking he feels as if he were treading on India-rubber, especially with the right foot. Occasional "lightning pains" in the leg are also present, but are not very severe.

It is true that, although the majority of cases of Charcot joints are unassociated with the formation of bone in muscle, the possibility of the association must not be overlooked. It is doubtful whether the ossification in the muscles in these cases is to be regarded as an independent affection, ocurring consecutively to inflammation, and therefore correctly described as myositis ossificans, or as an unusal epiphenomenon of locomotor ataxy met with as an accompaniment of the articular changes known as Charcot's disease, and of non-inflammatory orign.—Cocking in *Shef. Quar. Med. Journ.*

The Prognostic Significance of Tube-Casts.—The study of the tube-casts is the best basis for a prognosis in any case of inflammation of the renal parenchyma. The casts represent the pathological condition of the tubules, and by studying the casts the progress of the case can be ascertained. The tube-casts must first be classified. The grouping should be based upon their pathological source.

1. All tube-casts are the result of some form of nephritis.

2. Some casts are the product of non-exudative inflammation which is simply a catarrhal condition.

3. Other casts denote exudative or croupous inflammation.

4. Each class has varieties which are uniform, characteristic, and denote uniform and characteristic pathological lesions. The following is based on pathological grounds:

1. Casts of non-exudative origin.
   a. Mucin-casts (or mucous casts).

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b. Mucin casts inclosing cell-forms.
c. Mucin-casts inclosing crystals.
2. Exudative casts (fibrinous casts).
a. Hyaline casts.
b. Waxy or amyloid casts.
c. Blood casts.
d. Epithelial casts—large, small.
e. Granular casts—large, small.
f. Fatty casts—large, small.

The prognostic inferences based on casts are derived —first, on the origin of the casts, whether exudative or not,—mucous or fibrinous. If the latter, the lesion is a catarrhal one and means only a cloudy swelling of the renal epithelium with a favorable prognosis. If the former, it warrants the conclusion that a croupous inflammation is present. Mucous casts are an indication of the approach of a chronic nephritis. Catarrhal inflammation may in time become cropous.

Second, upon the size or diameter of the casts. Small casts are formed in tubules not denuded of their epithelial lining, and hence their functional activity is not yet destroyed. The prognosis is therefore that they may regain their functional activity. Casts of large diameter originate in tubules deprived of their epithelial cells. Their function being thus destroyed the prognosis is grave. If large and small casts appear together, the latter predominating, the inference is that a majority of the tubules still retain their epithelial lining and the prognosis is not so bad

Third, the regularity or symmetry of the casts has a prognostic significance. A symmetrical cast must have been formed in a tubule not yet distorted by pathalogical connective tissue. If the casts are twisted, distorted, or asymmetrical, they must have been formed in tubes of like characteristics, indicates more or less encroachment upon, and strangulation by, pathological connective tissue. It proves that cirrhosis is more or less well advanced and the kidneys correspondingly damaged. In the last stage of tubal nephritis the decayed roughened or "rubbed" appearance of the casts shows that the tubes wherein they are formed are undergoing fatty degeneration.

Fourth, the hyaline or structureless casts denote croupous inflammation. In the absence of other casts, denotes a favorable prognosis.

Renal hyperemia is denoted by the hyaline cast loaded with blood-corpuscles. The renal vessels burst and hemorrhage occurs. If this hapenes as an acute process, the prognosis is favorable. If as an exacerbation of a chronic one, the prognosis is grave. If the epithelial casts have undergone no essential pathological change a favorable prognosis is warranted. The prognosis is more or less grave according to the amount of fatty degeneration.

Fifth, if hyaline and epithelial casts coexist, with a predominance of the former, the prognosis is less bad than when the latter are predominant. If fatty and epithelial casts exist together, the danger is greater if the former predominate and vice versa.—I. N. Danforth, A.M., M.D., in *Med. News*.

MEDICINE.

The Prevention of Scarlatinal Nephritis.—The underlying cause of every case of scarlatinal nephritis is the scarlatinal poison itself. Exposure is frequently an exciting cause. The greater or less severity of the nephritis is due to a corresponding virulence of the poison acting on the epithelium of the renal tufts and the tubules. Not being able to judge of the severity of the scarlatinal poisoning by the local or constitutional symptoms, it is wise to lighten the work of the kidneys, and in that way mitigate the effect of the materies morbi upon them. This is done by sustaining and stimulating the emunctory functions of the skin; by so regulating the diet that comparatively few irritating excretory products need be eliminated by the renal epithelium and by calling upon the eliminating function of the intestinal mucous membrane. The urinary secretion is lessened in proportion to the increase of perspiration and the excretory functions of the intestinal mucous membrane. Hence, it follows that in order to prevent scarlatinal nephritis, the watery constituent of the urine must be increased, while at the same time the cutaneous and intestinal secretions are kept up to their normal standards. When the fever has subsided and the appetite craves solid food, the dilution of the urine must be active and the irrritating character of the urine reduced to a minimum.

An even and moderately elevated temperature and daily lukewarm baths seem adequate to maintain the cutaneous functions. The eliminative functions of the intestinal mucous membrane can be kept up to a standard by a daily evacuation of the bowels with an unirritating laxative. The dilution of the urine is best met by a milk diet. A milk diet continued for a month after the cessation of the fever is the best and simplest prophylactic treatment of the disease. Some cases manifest an irreconcilable repugnance to milk, others beget digestive disturbances, and in others milk does not seem to maintain nutrition—weight decreases and anemia persists.

The post-febrile treatment is a strict milk diet for a month, followed for two weeks by a mixed diet. In those cases in which milk does not agree with the digestion a mixed diet is allowed—solid food twice and milk meals two or three times daily. The solid diet consists of green vegetables, bread and butter, soup, cream, eggs, fish, oysters, chicken, and later, beef and mutton. At each meal a liberal allowance of hot water with a little milk, tea, or cocoa.

Those cases on a solid diet are also given a mild diuretic or alkaline remedy after each meal and at bedtime. It is advisable, from time to time, to vary the preparation given. The following are useful: citrate, bi tartrate, bi carbonate and acetate of potassium, and bi-carbonate of sodium, in doses of five to fifteen grains, according to age and the amount of urine excreted.—Wm. H. Flint, M.D., inNew York *Med Journ.*

NOTES AND ITEMS

What Becomes of Women Medical Students?—A correspondent of *The Lancet* writes as follows on this subject: The figures quoted from the *Revue Scientifique* with regard to lady medical students at Geneva, have led me to examine the statistics of the London School of Medicine for Women, and the comparison may not be without interest. In the first fifteen years from the foundation of the school, 1874 to 1888 inclusive, 160 students entered for the full course. Of these, 159 have qualified, 32 abandoned their studies, and 9 are still students. Of the students who entered in the two following years, 1889 and 1890, the majority have not yet had time to qualify, but the statistics are as follows: 64 students entered—6 of these have fallen from the ranks, 7 have already qualified, and the remainder are still working for their examinations. Thus, in all, 38 students, or fourteen per cent of the whole number, have given up work—14 did so on their marriage, 6 from ill health, and the remaining 18 for various reasons. Of the 166 students who have qualified, 9 have died, 129 are known to be in practice, and 28, or about fourteen per cent have relinquished their profession. It would be interesting to know what relation these figures bear to those of other medical schools. In Sir James Paget's well-known article "What Becomes of Medical Students?" in St. Bartholomew's Hospital Reports, I find that of the 1,000 students whose history has been investigated by him, eight per cent never qualified, and at least eight per cent of those who qualified left the profession within twelve years. These percentages are, it is true, considerably smaller than the corresponding ones for the London School of Medicine for Women, but, considering the different conditions which apply to women, and how frequently marriage or the claims of relations are impediments to further progress, it can hardly be said, whatever may be the case at Geneva, that women medical students in England are lacking in steadfastness of purpose or devotion to the work they have undertaken.

Destruction of Bacteria by Infusoria.—Dr. D. H. Atfield made, some months ago, in the Hygienic Institute of Munich, a series of experiments for the purpose of determining the relation of infusoria to bacteria (*Modern Medicine*). His experiments were made with water from the River Isar. Specimens were collected below the opening of one of the main sewers of Munich, and others above the exit of sewer. The specimens taken below the sewer were marked "A;" the ones from the river above the sewer were marked "B." The specimens collected below the mouth of the sewer were found to contain great numbers of infusoria, while those taken above the sewer contained very few, or apparently none. The germs contained in each specimen were cerfully counted when they were collected, and again at the end of six or eight days. In one instance "A" was found to contain 637,000 bacteria per cubic centimeter (¼ dram), while specimen "B" contained but 5900 bacteria per cc. At the end of five days, specimen "A," contained only 1200 per cc., while specimen "B" contained over 2000. It thus appeared that the infusoria had consumed nearly all the bacteria in specimen "A," reducing their number in the proportion of 500 to 1, while the bacteria in specimen "B" had decreased only in the porportion or about 17 to 1.

In another experiment, specimen, "A" was fonnd to contain 3,000,000 bacteria per cc., while specimen "B" contained but 700 bacteria per cc. At the end of ten days, the bacteria in specimen "A" had been consumed by infusoria to such an extent that only 13,200 per cc. were found, while in specimen "B" in which no infusoria were found, the 700 bacteria per cc. had increased to 121,500 per cc.

It will be seen by these experiments that infusoria play a very important part in the purification of water.

American Medical Association.—The Association train will leave Chicago Monday, May 28, via Santa Fe R. R., Rio Grande Western, and Southern Pacific for San Francisco via Denver, Colorado Springs, Leadville, Manitou, Glenwood Springs, Salt Lake, Ogden, Truckee and Sacramento. Returning, after the meeting, the train will pass through Sacramento and Northern California to Portland, thence east by way of the Northern Pacific R. R., to St. Paul. C. M. & St. P. R. R. St. Paul to Chicago. A stop over at Yellowstone National Park for those who desire it has been arranged, and it has been understood that at several places on the journey there will be short stops. President Hibberd's party in a special car join the train at Chicago, and the St. Louis party are expected to join at Kansas City. From all points east and south, concentrating on this train should be effected at Chicago and St. Louis. For all information relating to this train, fares, etc., address J. M. Connell, 212 Clark St, Chicago, or any agent of Santa Fe line in other cities. Rates promised are the lowest excursion rates at time of departure.

This is the only route on which arrangements have been perfected by the Trustees.

The Bactericide Properties of Ammonia Gas.—Rigler, of Buda-Pesth, has recently demonstrated the disinfecting properties of ammonia gas (*Modern Medicine*). The germs of typhoid fever, diphtheria, and other infectious maladies, were suspended by threads in a room of over 3000 cubic feet capacity. A quantity of liquid ammonia, equivalent to two pounds was exposed in proper vessels in the room, and evaporated at the average rate of about two ounces per hour for eight hours. Both the cholera and the typhoid fever germs were found to be dead at the end of two hours. The germs of diphtheria were dead at the end

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of eight hours. This experiment seems to prove that ammonia is a reliable disinfectant, and more powerful than sulphur fumes.

Association of Military Surgeons of the United Stated.—The fourth annual meeting of this organization will be held in Washington, D. C. May 1, 2, 3, 1894. This national organization is composed of medical officers of the United States Army, United States Navy, National Guard of the United States, and the Hospital Marine Service—in whose service are many of the most celebrated and distinguished surgeons of our country. A brilliant and able literary programme will be presented. The afternoon on one day will be set apart for an object lesson from the "Manual of Drill," by the Hospital Corps. The evening will be given up to social entertainments. There will be about five hundred delegates in attendance.

Dr. C. B. Burr has contributed another valuable manual of Psychology and Mental Diseases, published by Geo. S. Davis, Detroit, Mich., price, cloth, $1.00. It forms a firm foundation upon which the superstructure of this branch of medicine should be reared. Beginning with the faculties of the normal mind in a clear and plain manner. Using examples and illustrations quite freely. Then the causes and forms of the departure from the normal standard, with directions as to the care and management of cases, with treatment.

Medical Department of the University of Cincinnati.—The Cincinnati College of Medicine and Surgery has been affiliated with the University of Cincinnati under the title of the Medical Department.

CAREFULLY PREPARED STATISTICS show that the death ratio by sun strokes is greater than that by freezing. To better condition one's self for the siege of hot weather that will be along soon, the baths of Hot Springs of Arkansas are extremely beneficial.

RAILROAD NEWS

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E. B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

American Medical Association.

The annual meeting of this Association will be held in San Francisco from June 5th to 8th. It will undoubtedly be one of the largest meetings ever held; the attendance from Missouri and the States south of the Ohio River promises to be larger than at any previous meetings. Already parties or clubs of physicians with their friends, are being formed for the purpose of making the trip together. On account of a large number of communications from our friends we have looked into the matter of transportation in order to be able to inform our friends as to the most desirable route and can freely recommend the Union Pacific system from Kansas City via Denver, Salt Lake to San Francisco. The rates by this line are as low as any other line and as it is the short route the time is much quicker: if necessary members can take the Fast Trains of this route making three and a half days from St. Louis to San Francisco.

The most desirable mode of making the trip and one that recommends itself to most of our correspondents, and one that the Union Pacific offer to furnish, is a Special Train from St. Louis to San Francisco, under charge of the officers of the Association running through on special time. This train will allow sufficient lay-overs en route, say one or two days at Denver to enable the party to take a good look at Denver and its suburbs, also side trip into the mountain canons in its immediate vicinity, also at Ogden when side trip will be made to Salt Lake, where a similar lay-over will be made and side trip to Garfield Beach, the most wonderful bathing place in the world.

Parties who desire information in relation to this route can, by addressing Jas. F. Aglar, General Agent, Union Pacific System, 213 N. 4th Street, St. Louis, procure full particulars, rates of fare, illustrated pamphlet, maps, etc., of the entire route.

WITH THE SUN high in the heavens, shedding its powerful rays full on suffering humanity, those who have prepared themselves for the siege of hot weather can laugh in derision. There is one place on the American Continent to properly condition the system for this onslaught, and that is the famous Hot Springs of Arkansas with its excellent baths.

Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXIX ST. LOUIS, MAY 5, 1894 NO. 18

ORIGINAL ARTICLES

Rest in Gunshot Wounds of the Chest.

IMPORTANCE OF A QUICK APPLICATION OF THE PLASTER JACKET IN CASES WHERE THE PLEURA HAS BEEN PENETRATED—THE LABOR INVOLVED IN BREATHING SHOULD AT ONCE BE TRANSFERRED TO THE DIAPHRAGM—METHOD OF DRESSING AND HISTORIES OF TWENTY CASES TREATED AT THE ST. LOUIS CITY HOSPITAL.

BY HEINE MARKS, M.D, ST. LOUIS,

Superintendent and Surgeon in Charge of the St. Louis City Hospital; Member of the American Medical Association; Member of the Missouri State Medical Association; Vice-President of the St. Louis Medical Society; and ex-Member of the Board of Managers of the House of Refuge.

[Notes of cases Collated by H. S. CROSSEN, M.D., First Assistant Physician].

In presenting a resume of the treatment followed by myself in the following twenty cases of gunshot wounds of the thorax, I feel that any but the shortest explanatory remarks would be superfluous. All cases cited are those of patients in the St. Louis City Hospital, and their histories form a part of the official records of that institution. My object is not to theorize (for I present but the carrying out of an old idea), but rather to show by the record of actual facts the almost universal success which followed the use of the plaster-of-paris jacket in the treatment of such cases.

In all the cases mentioned, the methods used were practically the same, and the results uniformly successful. Of all the patients whom I have treated in this manner (and there were many from the police department of this city, brought to the hospital), in not a single instance was there a fatal termination. The object sought was to produce, as early as possible, as complete a state of rest as might be obtainable by a strict immobilization of the parts injured, which, I claim, can be best attained by using a plaster-of-paris jacket. A complete synopsis of the entire treatment of each case might be given as follows:

1. Treat the patient for shock and nervous prostration by strychnia, hypodermically, application of hot-water bottles, and an enema of hot whisky and water.

2. Cleanse the chest and wound, removing all pieces of splintered bone, etc. Never attempt to extract the bullet, or use a probe under any circumstances. On this matter I shall have more to say later.

3. Apply the dressing.

4. Place on the jacket in the prescribed manner, with all possible rapidity and accuracy.

In order to prevent any possible misunderstanding, I wish to state most emphatically that I make no claim to being the originator of the plaster jacket, which I have used for over fifteen years in cases of fractured ribs, injured joints, etc. Neither is the simple, but most important, idea of securing rest in cases of gunshot wounds of the chest, pleura and lungs a new one, or original with me. I, in common with other surgeons, have used it, and merely give my experience.

I wish to acknowledge my great indebtedness to the researches of that eminent English surgeon, John Hilton, F.R.S., F.R C.S., etc., whose views, as set forth so clearly in his work on "Rest and Pain," first conveyed the nucleus of this great idea to the world. While he does not even suggest the use of the plaster-of-paris jacket, or of any other mechanical device, for securing the rest which he advocates in inflammatory conditions of the thoracic cavity, he does say: "If a joint be inflamed, we put a splint upon it to keep it at rest. Why not strap or bandage the chest in cases of pleurisy? Surely, it would have the tendency to subdue the inflammatory condition by preventing friction between the two opposite pleural surfaces."

Continuing, he says further: "All surgeons must have observed in cases of pleurisy that if the patient be asked to take a full breath, to raise the ribs and expand the lungs, he cannot do so without suffering great pain. This is surely very suggestive of the importance of rest, and points to the value of strapping the chest in cases of acute or chronic pleurisy, with or without fracture of the ribs (I have no doubt about its great utility in the latter complication); for it not only keeps the ribs quiet, but prevents any friction of the pleura upon the inflamed pleura costalis."

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Surely, it is carrying out the simple idea, so plainly

embodied in his words, to secure even more perfect immobilization of the parts by a plaster-of-paris jacket than could be obtained by any bandage, no matter how carefully applied. It is most clearly applicable to the

FIG. I.—APPLICATION.

treatment of gunshot wounds of the chest, for do not much the same inflammatory symptoms prevail in such cases? Here we at once get an acute traumatic condition, caused by the bullet passing through the pleura and lung, and setting up an irritation of that membrane and organ.

When a bullet, or any similar foreign substance, enters the lung it produces a hemorrhage, followed by an extravasation of blood into the surrounding tissues. Now, it is only necessary to remember that the serous membranes (pleura) are not only secreting, but are rapidly absorbing. In giving them rest as quickly as possible, they almost as quickly recover their power of absorption. Post-mortem examinations, when death has resulted from such wounds, show that in extravasations of serum and blood every drop of such serum is absorbed.

In theory, let us follow a hypothetical case through the proper course of treatment. On entering the hospital, a patient suffering from a gunshot wound of the chest—suffering, as they usually do, more from the shock than from the wound—should be immediately treated for this shock. The usual restoratives may be administered, but the method which I have inaugurated at the hospital I find most nearly perfect, viz: Give $^1/_{30}$ of a grain of sulphate of strychnia hypodermically every half hour until three doses have been administered; then continue the same dose every four hours until the patient has bridged over the shock. This treatment I find most efficacious in cases where vaso-motor and heart stimulants are required. Hot water bags or bottles should be applied, and the chest next rendered thoroughly aseptic by being scrubbed and cleansed. The wound of entrance, and of exit (if any), is syringed with an antiseptic solution and dried. A dry dressing in the form of a powder is then applied, either of iodoform, or preferably, one composed of boracic acid and phenol—Sennine—which I have been in the habit of using in all cases of gunshot or incised wounds, and, in general, when a dry dressing is needed.

I would advise every surgeon to adopt as an axiom my invariable rule: Never probe a gunshot wound of the chest, or any that is produced by a bullet. I cannot too earnestly urge this point upon the attention of the profession. In my opinion, the probe is merely an instrument of useless torture, and of positive danger when used in cases of accidental surgery. It does more harm than good. This thing of probing for bullets is

FIG. II.—ANTERIOR VIEW, JACKET APPLIED

out of date. It is a "back number," and belongs to the age of the lancet and the bolus. Its use in some cases of gunshot wounds is positively criminal, and in all such cases is the worst possible practice. The bullet will nearly always take care of itself, and, in the cases

herewith reported, has remained in the chest, become encysted, and caused the patient no inconvenience whatever. Where you must use a probe, use the finger, making a clean incision if necessary to introduce it. Do not perforate or tear the delicate membranes. I believe that the metal probe has caused almost as many deaths as have been due to bullets.

Where there is emphysema, the plaster jacket causes a rapid absorption of air from the tissues and hermetically seals the wound, thus preventing further escape of air into the tissues—a thing of recognized importance, even in the early days of surgery. It prevents various complications generally to be met with in cases of this character.

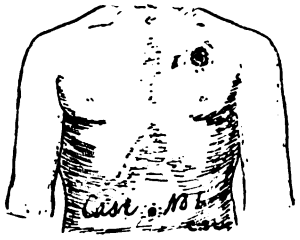
FIG III —POSTERIOR VIEW, JACKET APPLIED.

No special skill is required in placing the plaster jacket, the only requisite being to adjust it as quickly and tightly as possible, so as to immobilize the chest and make the diaphragm do most of the labor involved in breathing, while the lungs assume a condition nearly approaching to perfect rest. Thus immobilized, the pleuritic membranes at once begin to absorb the blood in the chest, and complications are usually averted. The patient should be in a recumbent position while the jacket is being applied. This is necessary because the jacket is liable to become loosened, or to cause avoidable pain if it is already rigid, when the patient's position is changed from a sitting to a prone one. The arms should be held well up and back during the application of the jacket, as indicated in Figure I, and when completely and properly adjusted the visible effects produced should be such as are shown in Figures II and III. The jacket should be applied to about the sixth or seventh rib, in order to allow the diaphragm as free as possible movement in breathing.

After all, no treatment can be efficacious unless the physician himself be skilful. He must be quick to perceive what is necessary, and as prompt to act. Mere descriptions of operations fail to convey an adequate idea of the nice details and essential minor points, nor can they be made much more clear by illustrations or diagrams. To be comprehended and appreciated, the technique of an operation must first be witnessed and then practiced. Then, and only then, can they be safely attempted by the professional onlooker.

Nothing I have said, I believe, can be looked upon as too radical an innovation. Above all, I advocate conservatism. Nothing is new, and the system is in constant use among the best surgeons in the country. I write with the sole idea of gaining for the method more general practice and attention. My friend Dr. A. C. Bernays has tested its value for many years, and bears me out fully as to its uniform success.

I can only fail in my endeavors if I have failed to prove that the first step to be taken in treating gunshot wounds of the chest is to practically limit the breathing of the patient to the diaphragm, thus giving rest to the pleura and enabling the adjacent membranes to resume their normal functions.



CASE I.—Michael S———, age 42 years; occupation, shoemaker.

Patient was shot in the chest the morning of June 18, 1892. Was brought to the hospital 9:30 A.M., one and a half hours after the accident. Was a stretcher case. Temperature, 99°; pulse, 88; respiration, 34. Did not expectorate any blood.

Examination revealed a bullet wound in the second left intercostal space, four inches from the mid-sternal line. Venous blood issued from the wound, and coughing increased the flow of blood. Slight subcutaneous emphysema about the wound. No wound of exit was found. Bullet not located. Complained of pain in back on raising left arm.

At 11:30 A.M., two hours after entering the hospital, he complained of dyspnœa and began to expectorate a small quantity of blood. Moist rales posteriorly in each lung; no dullness. The wound had been dressed antiseptically, and the next morning a plaster-of-paris dressing was applied to the chest. Patient continued to ex-

pectorate a small quantity of blood occasionally for two days. Case progressed favorably. Highest temperature was 100.2°, which was reached the day he entered the hospital. Pulse did not go above 90, nor respiration above 34.

Was discharged, recovered, June 29, 1892, sixteen days after entering hospital. Wound was healed and he felt well.

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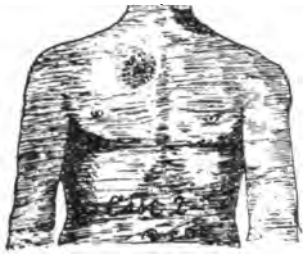

Case II.—Amster J—— (colored), age 35 years; occupation, roustabout.

Patient was shot June 26, 1892. Admitted to the hospital 8:00 P.M., about one hour after the injury. The bullet had entered near the third right chondro sternal articulation and passed backward and outward, coming out in the posterior axillary line about on the level of the fourth rib. General disturbance was slight. There was no direct evidence of visceral injury, but from the direction of the ball it was supposed that the thoracic cavity had been entered.

The wounds were immediately cleansed and dressed antiseptically and the chest encased in a plaster of-paris dressing. No complications appeared. Temperature did not go above 99.3°. Pulse ranged from 50 to 64, and respiration 15 to 27.

Discharged, recovered, July 4, 1892, having been in the hospital eight days.

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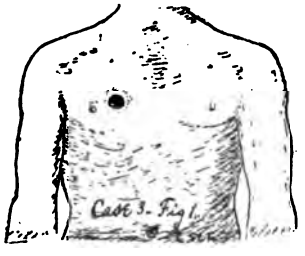
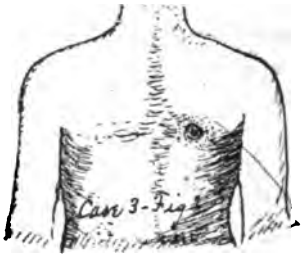


Case III.—James R——, age 44 years; occupation, laborer.

Patient received a bullet wound of the chest the morning of September 19, 1892. Was brought to the hospital 5:30 A.M., two and a half hours after the injury. Temperature, 100°; pulse, fair; respiration, short and jerky. Had expectorated no blood. The ball had entered anteriorly in the fourth right intercostal space and passed through the chest, coming out near the inferior angle of the scapula of the same side. There was dullness in the right side posteriorly, indicating hemorrhage into the pleural cavity.

Respiration hurried. An antiseptic dressing was applied to the wounds and the chest encased in a plaster jacket.

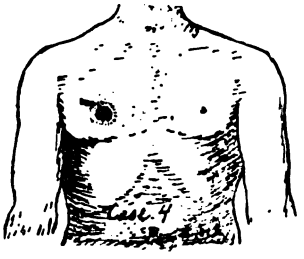
Patient continued in a fairly comfortable condition, with the exception of pain in the right side. Temperature ranged from near normal to 101°; pulse from 80 to 105; respiration from 18 to 26.



The fifth day the patient's temperature rose to 102°. Complained of pain in right side. Was aspirated, and about one ounce of blood removed from pleural cavity. Pain diminished. Temperature varied from normal to 101° for ten days, and then gradually subsided.

Patient was discharged October 9, 1892. Had been in hospital twenty days. Wound was almost healed. He returned occasionally for dressing, and wound healed in a week.

Caliber, 38.



Case IV.—Harry H——, age 20 years; occupation, clerk.

Patient was shot in the chest February 17, 1893. Brought to the hospital at 7:50 P.M., one and a half hours after the injury.

Examination revealed a bullet wound at the site of the right nipple. No wound of exit was found, nor was there any indication as to where the ball was situated. General disturbance was slight and there was no decided evidence of visceral injury, but it was supposed that the thoracic cavity had been entered.

Treatment—Antisepsis and plaster dressing.

Case progressed favorably. Had no decided fever.

Was discharged March 1, 1893, twelve days after entering hospital. Wound was almost healed.

Caliber, 38.

Case V.—Barney McI—— (colored), age 22 years; occupation, teamster.

Patient was shot in the chest March 5, 1893, about 8:00 P.M. Was admitted to the hospital three and a half hours later. He had walked three blocks after the accident. When admitted he was rather weak and had

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some dyspnœa. Pulse regular and of fair volume and tension; respiration, 28; temperature about normal.

Examination revealed a bullet wound of the anterior surface of the right side of chest, midway between the clavicle and the nipple, and just without the mammillary line. No wound of exit was found The location of the bullet could not be determined. Patient had not expectorated any blood. In the right infra scapular and axillary regions there was dullness, with absence of vesicular murmur and vocal fremitus.

Treatment—Antisepsis and plaster-of-paris jacket.

The next morning he had some pain, but the dyspnœa was diminished.

Patient improved. Had no decided fever.

Was discharged, recovered, March 20, 1893, having been in the hospital fifteen days.

Caliber, 38.

Case VI.—Earnest C—— (colored), age 19 years; occupation, laborer.

Patient received a gunshot wound of the left side of chest, March 19, 1893. He was taken immediately to a physician's office, where an incision was made over the entrance wound.

Patient reached the hospital 3:25 P.M., one and a half hours after the shooting.

Examination revealed an incised wound (made by the physician) about two inches long, extending through the greater part of the soft tissues of the chest wall. It was situated in the left side of chest, midway between the mammillary line and the edge of the sternum, and above the heart's area. In the incision could be seen the wound caused by the bullet, which had apparently entered the thoracic cavity. No wound of exit was found. Patient expectorated some blood. No fluid was found in pleural cavity.

Wound was dressed antiseptically and a plaster-of-paris jacket applied to chest.

The case progressed fairly well. Only twice did the temperature go above 100°. The third day it rose to 100.8°. The twelfth day it rose suddenly to 103 7°, but quickly subsided, and the next morning was normal.

Patient was discharged April 4, recovered. Had been in the hospital sixteen days.

Caliber, 32.

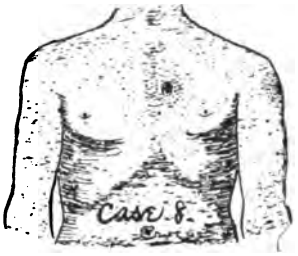
Case VII.—Frederick W——, age 53 years; occupation, fireman.

Patient was shot in the right side of chest May 30, 1893. Reached the hospital 9 P.M., two hours after injury.

Examination revealed a small bullet wound in the second right intercostal space, just within the mammillary line. No wound of exit was found. Patient did not expectorate blood. Auscultation and percussion failed to reveal anything abnormal within the chest; neither did his general condition indicate serious visceral injury.

Treatment—Antisepsis and plaster dressing. Patient was discharged June 15, 1893, sixteen days after entering the hospital. Wound almost healed.

Caliber, 22.



Case VIII.—Wm. R—— (colored), age 29 years; occupation, laborer.

Patient was admitted to the hospital June 17, 1893, 1 A.M., about half an hour after the accident, suffering from a gunshot wound of chest. The bullet passed through the soft tissues of the left upper arm, about two and a half inches below the shoulder joints, and then entered the thorax, perforating the lung, passing inward and forward, and lodging under the skin in the third intercostal space, near the margin of the sternum.

Patient coughed repeatedly, expectorating blood.

Parts were cleansed, the bullet extracted through a small incision, wounds dressed antiseptically, and plaster-of-paris jacket applied to the chest.

Patient made a good recovery. Had no decided fever, or other evidence of complication.

Was discharged, recovered, June 26, 1893, having been in the hospital ten days.

Caliber, 38.

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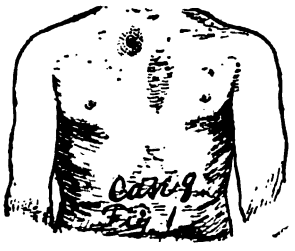
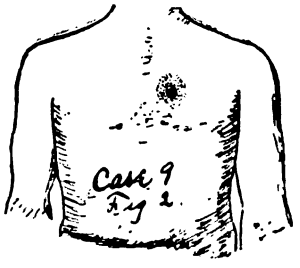
Case IX.—Samuel W——, age 40 years; occupation, blacksmith.

Patient was shot in the chest June 28, 1893. Reached the hospital 10 P.M., about one hour after the shooting. He was very weak and suffered considerably from shock.



Examination revealed a bullet wound a short distance below and external to the right sterno clavicular articulation. The ball had passed backward, downward and outward, and lodged beneath the skin, near the inferior angle of the scapula of the same side. There was sub cutaneous emphysema about the bullet. The parts were cleansed, the ball extracted through a small incision, the wounds dressed antiseptically, and the chest encased in a plaster of-paris dressing. Patient expectorated blood.



The case progressed favorably. Patient had no decided fever. Was discharged July 10, 1893, external wounds not entirely healed. Had been in hospital twelve days.

Patient returned occasionally for dressing, and wounds healed in about two weeks.

Caliber, 38.

[TO BE CONTINUED.]

Causation of Pelvic Inflammation.

BY T. D WITHERSPOON, M D.

Read before the St. Louis Medical Society, April 14, 1894.

Upon trying to systematise my thoughts and convey a proper idea of my conception of the subject, I found it one for endless work and one which would prove very tedious to those uninterested directly in it. I will, therefore, try to condense, as much as possible, and deal cursorily with but the outlines of inflammations in general and their cause in particular in the field of the gynecologist.

There has probably never been, in history of surgery, a condition, to solve whose course and cause there has been so much expenditure of effort, as that to which we apply the term of inflammation. The oldest observers understood that something unusual was going on in the tissues, that they were much heated "wherefore the term from inflammatio;" and the process was regarded as an intense increase of the vital processes. Celsus defined it as a process characterized by calor, rubor, tumor and dolor. Lately in its history was added "functio laesa." These were purely macroscopical and gross grouping of symptoms and signs, which covered the field, as well as a lack of more exact means would allow. With the microscope came a new era. These processes were studied minutely and the cell and vessel changes themselves noted. The neuro-paralytic, neurospastic and Virchow's theory of attraction, were taken up and each supported by its many followers. To Cohnheim in particular, with the work of Eberth, His, Recklinghausen, Stricker and others, do we owe most of our knowledge of inflammation to day. Cohnheim taught that injury to the vessel wall was the primary and necessary factor in all inflammations, and, therefore, any injurious agency which was capable of altering the blood vessel in a particular way, was capable of exciting inflammation. This would be to insist upon the fact of the number of agencies capable of producing inflammation being very great. They were grouped under the heads of mechanical, thermal and chemical, to which latter belonged infection, and were supposed to act upon the vessel in one of three ways:

1. By direct injury to the vessel primarily through the circulation.
2. By injury to the vessel and tissue together.
3. By injury to the tissue alone, which secondarily affected the vessel. Senn, Hueter and others, ascribe all true inflammation to the action of bacteria, or their ptomaines and leucomaines, and all others only to such agencies as accompany the process of repair.

Inflammation is a process not always typical in its course. There is a broad difference between acute fulminating phlegmon, and the slow perilymphangitis which is common to nearly every tissue of the body. Billroth, after outlining the changes consequent upon inflammation, defines it "as a modification of the normal physiological processes in the different tissues of the body. A disturbance of nutrition, whose histopoetic results you know, and of whose destructive action the surgeon is constantly reminded." He further says, "We now know that inflammation is not an existence outside of the body, which makes its way into some parts and there grows, and must be expelled like Beelzebub; and we know why tumor, rubor, calor and dolor are caused by inflammation. But, although any one usually recognizes an acute inflammation as such and designates it correctly, it still remains difficult, clinically as well as micro-pathologically, to give exact definition. How much hyperemia, exudation and new formation of tissue is required before we can term a process inflam-

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mation, cannot be stated absolutely." Ziegler, on the other hand, says, "Mere dilation or mere contraction of the vessels does not bring about the disturbance of the circulation characteristic of inflammation. The changes, observed in the tissue cells at the beginning of inflam mation, do not bear the character of productive or formative disorders of nutrition. There is no evidence of any influence exerted by the tissues on the vessels and blood, which is at all of the nature of attraction (reparative). The changes in the tissue cells are partly concomitant with those of the circulation, partly antecedent, and partly subsequent to them. The vascular disturbance is not dependent on any peculiar influence exerted upon the vessels; it is the result of a deterioration or injury of the vessel walls, with or without an actual lesion of tissues. We see how widely different are the opinions of various writers; men recognized as authority. Billroth holding to Virchow's exaggerated nutritive process, and Ziegler condemning it, takes up the theory of Cohnheim largely. Perhaps, at present, we suffer from too much minute detail upon the subject, just in proportion to the lack of detail before the days of the microscope. Billroth remarks with force: "There is no difficulty in distinguishing an oak from an ash; but if you attempt to generalize and give a sharp definition between plants and animals, you will have the greater difficulty the more you know of the details of botany and zoology."

It is well, however, from a clinical point of view, to try and make a distinction between inflammation and repair, and not allowing calor, rubor, dolor, tumor, nor disturbance of vascular supply with infiltration to be our sole indicators, draw a line which should govern us in the management of these cases, which it is our duty to care for and to pilot to a successful issue. Inflammation then, we call a progressive disturbance, characterized by certain tissue and vessel changes, whose ultimate result is destruction, though often modified or checked with consequent hyperplasias or restitution complete (ad integrum). Strictly speaking, the circulatory change is governed by two factors.

1. A changed vessel wall as well as tissue surrounding.

2. An attempt, on the part of Nature, to repair dam age being done.

While inflammation is usually associated with increased circulation (congestion), the two are essentially different. Inflammation is the injury to the tissue or, more properly, the change in the tissue sub-structure; the congestion being largely the attempt at repaia. Let us now turn to the cause of this process and, in so doing, try, more fully, to define our position. Let us consider the different forms of inflammation and their special causes; let us, in other words, see in how far mechanical, chemical and thermal causes, are essential to this process.

In all books we find a lengthy description of trau matic inflammation (so-called), non infectious, which is intended to illustrate, in a lesser way, that typical inflammatory process (infectious), which follows the careless handling of wounds at times. It is, however, recognized as a reparative, a healing or granulating process, in which there is no tendency to spread beyond the immediate vicinity of the injury without further cause. The question naturally arises to my mind. Is this true inflammation? I believe to day we should say, no. This nutritive, up building, reparative endeavor on the part of Nature, clinically, should have no place with true inflammation. Its ultimate end is repair, and it is so from the first. Its processes are never destructive, and we have not that inflammatory chemical change of the protoplasm of the area, which is essentially inflammation. This, we may hold, however, is due to a single impulse with traumatism resulting. But how about continued or repeated irritation of the tissues; have we not in that a cause for inflammation? I think not. I scarcely see wherein the proposition is changed from the original, save in number of traumatic repetition or length of time wherein the tissues are insulted by the mechanical body. Each trauma has, of course, the power of retarding the reparative process, and even may make more injury to be eventually repaired, but the reparation remains essentially the same, even from the first moment of injury. The question naturally arises, Do mechanical causes ever lead to true inflammation? I believe that while continued mechanical irritation or injury necessitate a continued attempt at restitution, that is, a persistent effort to throw off or circumscribe the mechanical irritant; we have, nevertheless, not an inflammation but a typical nutritive process with its vascular and tissue changes, which Ziegler denominated as essentially in-characteristic of inflammation. The more we study the subject to day the fewer are the inflammations (typical) which we see ascribed to traumatic causes, pure and simple. The surgeon, bruising, tearing, cutting and killing tissue, rarely sees an inflammation as the result of his work, which he cannot trace to infectious agencies, and true it is that the knife, forceps, scissors, needles, compresses, ligatures, and dressings produce every shade of injury to tissues possible, either temporary, continued, intermittent or permanent. Congestion, too, might be considered mechanical, as being the result of position, etc., but it is not inflammation, nor does it produce it of itself unaided by other causes, as is clearly shown by Schiff, Ziegler and others.

In how far is chemical causation to be upheld? This is a question hard to solve. If we could but tell just the nature of the chemical changes upon which inflammation demends, we might find an answer. Inflammation, like every process in the living body, is chemico-physiological or pathological, but neither the microscope nor the laboratory reveals its exact nature. I am inclined to believe that the coarser chemical actions, observable either macro- or microscopically, are not, in themselves, causative agents. The tissues, so altered by the chemical, are either rendered non-absorbable and become purely mechanical in effect, or being less potently acted upon, are absorbed; or, again regaining

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their vitality, perform their normal functions. Certain chemicals injected under the skin are reputed to produce inflammation, but we are careful to describe such as purely local and not extending. This is, however, denied by some. If we carefully prepare the skin and then use a drop of nitric acid upon it covered by surgical dressings, we can easily convince ourselves that very little inflammatory condition is noted about the burn, much less than when left unprotected and done without surgical provision. We may oven suspect that the irritation produces only simple congestion superadded to the process of repair. But, of course, the process of inflammation is evidently a chemical one, and it is hard to draw a line here, for, beyond the area of demonstrable change, that essential molecular (chemical) one may still take place.

I am not a believer in the thermal causation of inflammation. There is nothing intrinsically added or subtracted but we have purely a modification of the physiological. Place the ameba under the field of the microscope and observe the effects of heat and cold. In reducing temperature we render movements slow or arrest them altogether; on raising it we first quicken them and arrest them by heat tetanus when 35° C. is reached. Movements reappear normally on reducing the temperature again. Not until we raise the temperture to 40° C. do we have heat rigor or coagulation of the protoplasmic contents. This, as we see in the range of life, is purely a retardation or acceleration of vital manifestations. In the differentiated structures of the body we, of course, have tissues and reactions more specialized, but careful study will show them to be fundamentally the same, as in the case of the ameba. Heat nor cold produce marked vital effects locally until they destroy tissue, when the process naturally becomes reparative.

To obtain true inflammation we should have a constant acting disturbing element, which is capable of chemically entering into and affecting the part or parts, (and that means every structure and not purely the vessel endothelium) in a particular way which, as a consequence, tends to the destruction of the area affected, but, in most instances, accomplishing only a change permanent or temporary.

That effect which we describe as the action of a drug, consists, not in a one-sided action, but rather in a reaction between the drug and the various parts acted upon. The drug is changed as well as the function of the tissues acted upon modified. In other words, the protoplasm partakes of a different nature when in chemical union with the drug, and oxidation and chemical changes in this altered protoplasm, necessarily differ from the normal either in increased, diminished or entirely changed action. Iodide of potash, in connection with the young cells of a syphiloma, forms an iodo-albuminate, which more rapidly oxidizes than it can take up nourishment and, therefore, dies and is absorbed, or rather, is burned out, so to speak. This is an allied process to that which takes place in inflammatory chemical conditions. There is evidently a chemical reaction, a different formation, and a very decidedly different role played in the functioning of the part. The tendency is to destruction and, were it not for another factor, it would ultimately end so every time. All living cells are peculiar in their power of becoming habituated to conditions; in obtaining a so called immunity from a constant source of danger. Now, we know this habitution to or immunity from the action of a drug, does not mean a condition in which changed protoplasm becomes normal in its functioning. Cause and effect are always constant. But it does mean that, in some way, protoplasm manages to obtain another more positive chemical body to unite with the foreign factor, thus saving itself from harm. There are many theories to explain this immunity. Pasteur did so by "exhaustion" of a necessary chemical in the protoplasm. Chauveau by "retention" of a chemical after infection primarily. C. Roser advanced "phagocytosis;" Buckner the "humeral" theory. Probably, that which holds its ground best today, is that of the "defensive proteids." When a tissue is attacked by a toxine, leucomaine, ptomaine or other chemical, its continued action develops, in some manner, another chemical which opposes or neutralizes its further progress, and so we have a cessation of symptoms. This newly developed substance is called antitoxine. Some of these anti-toxines are normally developed, however, in certain animals, naturally immune to certain chemicals, and are called sozins. Others are developed pathologically and called phyloxines. Now, it happens when an effective cause acts upon a certain tissue, not naturally immune, we have a reaction destructive in tendency, but, by the development of the phyloxines, this irritative and destructive cause is gradually overcome and restitution follows complete or in part. If, however, the destructive agency is too potent, we have death in the part before the antagonist is developed, and gangrene or suppuration is the result. The tissue on the border of the directly affected area, being less potently affected, develops this inhibiting factor and, at a greater or lesser distance from the primary focus, the process is checked. At times, however, it is not so and death to the individual follows. That microorganisms are the source of inflammatory conditions, is too well understood to need further proof, further than our every-day experience.

In the region of the gynecologist there are four anatomical divisions of inflammation:

1. That of the mucous membrane of the uterus, tubes, and vagina.

2. Parenchymatous inflammation of the intrinsic structures of the uterus, tubes and ovaries.

3. Serous inflammation of the superior coat of the uterus, tubes, ovaries and supports.

4. Cellulitis or peri-lymphangitis of the supports themselves which are derived from the recto-vesicle layer of the pelvic fascia.

We rarely find any of these forms existing separately, for, in nearly every case, they are more or less assoc-

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iated. We may also speak from a pathologico anatomical standpoint of mucous, serous, purulent, glandular, interstitial, parenchymatous, cellular, hyperplastic, etc.

There are a few points worthy of notice in the anatomy of the part. In the first place they are admirably protected, by a body and ligamentous surrounding, from external violence. The organs most important are most removed from any source of danger. The vagina, which is the connection between the surface and the internal organs proper, is closely allied to the skin in structure and much less readily injured than mucous membranes. It presents papillæ, squamous epithelium and no true mucous glands. The lining of the uterine body also is very defensive in its functioning. Each month it is thrown off probably down to the muscular layer of the uterus, and rebuilt again from the cells of the glands which lie deeply buried in the musculosa. This rapid desquamation, or rather denudation and repair, is eminently opposed to germ colonization. There is one factor, however, not well understood, and that is the means by which venous return current is kept up actively, and why not all women suffer from more or less congestion and its consequences, because of the dependent position of the part and its physiological engorgements each month. Respiration and muscular contraction and support are the active causes of all venous flow, as we well know. Now, in the pelvis we have an arrangement of the floor, muscular in structure, which, by its tonus or voluntary contraction, at times uplifting against the intestines above, is a powerful factor in sustaining and pressing the venous blood of the pelvis into the inferior cava. We see further, that this arrangement causes, at the time of inspiration (a potent factor), an increased tonus on the part of the levator ani, coccygeus, transversus perinei, sphincter ani and pyramidalis, and the descending intestines are counter posed by increased resistance and the venous upflow made more active. We can then readily see how a torn levator ani can bring about congestion, prolapse, diminished vitality and inflammation.

Thermal causes of inflammation, as I said, I do not endorse. Were these possible, the situation of the pelvic contents would exclude them from direct thermal conditions, except in the case of the douche, and that neither cold nor hot water alone produce inflammation here, we all know. The metritis or cellulitis following exposure have not, as a direct cause, a thermal change in the part, but are due to the establishment of a locus minoris resistantiæ, consequent upon congestion. Nor do I believe in the mechanical origin of inflammation, except that they frequently bring about congestion, pressure with superficial necrosis, injury to the tissue with inroads to infection, and trophic disturbances which open up a way to true inflammation in the presence of the essential factor. I agree thoroughly that no more potent agent to the setting on foot of inflammatory pelvic troubles exists, than prolapse, flexure, version, laceration, non fitting pessaries, contractures, etc., but I maintain that they are merely predisposing causes and not primary. Very largely to day do we find most inflammatory disorders arranging themselves under the head of infections. Through the laborious efforts of a few investigators, it has been definitely proven that the vagina and cervix, not the uterine body, are the natural habitat of various streptococci, and staphylococci, as well as others less understood. We know it is a fact that all mucous membranes, readily accessible to the surface, and the skin proper, have upon them numerous varieties of living organisms. The epithelium of the surface acts as a barrier to inroads and protects the underlying tissues. These organisms, by their long stay, inert, in these localities become harmless Should favorable conditions arise for their active growth and development, they become dangerous enemies to the individual. The organisms, mentioned as occupying the vagina and cervix, are inocuous under healthy conditions in the parts, but, should proper factors for their virile development be brought about by any agency whatever, they become potent for harm. There are also local inoculations upon these parts of the tubercle bacillus, gonococcus. Lustgarten bacillus, actino-mycosis, diptheritic, erysipelatous and scarlatinous infections, and many others well known. Septic absorbtion from neighboring processes, at times, determines consequential results. A rectal ulcer or fistula may be the cause of a vaginitis, metritis or metro vaginal lymphangitis. Likewise, pelvic distubances of inflammatory nature in the uterus and peri uterine structures, come from an old cystitis or intestinal trouble. The baccillus coli communis frequently takes an active part, migrating through the lymphatic structure of some intestino-pelvic adhesions. There are also local expressions in the pelvis, of some systemic infections at times. The sloughing vulva and vagina in variola, diphtheria, and other severely septic disturbances; the secondary tubercular salpingitis of pulmonary phthisis; and the metritis, salpingitis, or myositis of the acute exanthemata, are good examples.

Of course, because of lack of knowledge, we have, in practice, to turn our efforts from the anti-bacillary treatment, and endeavor to render the parts less subject to attack and remove any apparent pre-disposing cause. We should guard against colds, fatigues, long maintained erect posture, constipation, excesses, abortions, etc., and remove anemic cachexia, spinal troubles, neuritis, faulty ovarian or uterine functioning, due to mal-development, prolapses, flexures, versions, lacerations and contractures, and use with care probes, pessaries, instruments of all kinds and remedies as well; and, in child bearing and physiological processes, help nature only when we know how to help, and not to harm, The probe is an instrument that should be sold only as poisonous drugs are; that is, to competent men, and labelled "Dangerous." The probe stands pre eminently to-day as the most successful necessitator of the laparotomist. No more potent cause for infectious endometritis, salpingitis, ovaritis and abscess can be found, than that simple inoculator in the hands of a hurried or

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careless routine practitioner. I do not remember that, before the time of the probe, so much invalidism and helplessness was recorded as existing amongst the fairer sex. Our grand-mothers and grand aunts had either less instrumentation than the women of to day to account for it, or the world has changed our mode construction greatly. Too much stress is laid upon the necessity of shoulder support of clothing and the harm done by corsets and high heels, and too little blame laid at the door of the doctor. The pessary, likewise being an instrument for definite good when well used, becomes a very dangerous agent in the hands of those not expert in its use. How many of us, when consulted by a patient with a misplaced uterus, turn to a text book or catalogue to see which variety of instrument will suit our case best; which one most highly recommended by this or that particular author or instrument dealer. Probably, had we not cuts to refer to, we would scarcely know where to place it or how to introduce it. The market is as full of pessaries, as the drug store is of clap remedies and specifics. We can depend upon it, that a multiplicity of remedies or instruments for any one thing, stamps them all as not wholly satisfactory. If we want to use a pessary we should study it and become mechanical users of it; understand how to fit it and change its shape according to indications, and then, knowing it well, stick to it.

There is one thing that I should like to speak of be fore closing this paper, and that is unclean habits at the menstrual periods. Most women develop a veritable hydrophobia at this time, and feel a security in shameful filth. I should like to record myself as in favor of plenty of boiled water, both as a douche with a proper nozzle, and as a bath locally at these periods. If there is one time above all others when we should maintain perfect cleanliness, it is this one. The vagina full of blood and debris, the endometrium open and absorbtive, and an abundance of organisms present, offers a most perfect facter in setting on foot and keeping up those conditions which, too often, the text books record as ending at the menopause.

The Necessity of a Mydriatic in Estimating Errors of Refraction.

BY J. ELLIS JENNINGS, M.D,

Late Clinical Assistant Royal London Opthalmic Hospital.

Read before the St. Louis Medical Society, April 14, 1894.

There seems to be a tendency for the practice of opthalmology to take a circular course in its search for higher development. We are making steady progress upwards but every now and then we find ourselves treading familiar paths; ground over which we had never expected to travel again. In the treatment of corneal ulcers we go from curette to cautery and cautery to curette; from atropine to eserine and then back to atropine, until we are confused. A learned London oculist gave expression to this uncertainty when he said to me: "First try atropine and if that don't work use eserine. The history of cataract extraction furnishes us with another illustration of this tendency to move in a circle. Extraction was first practised by Daviel, of Marseilles, about the middle of the last century. He and his followers took great care not to wound the iris. Then came the brilliant Von Graefe, who taught the world to remove a portion of the iris before extracting the lens, and it became the recognized mode. But in recent years there has been a reaction, and now we find the majority of oculists arrayed on the side of simple extraction.

But yet another change confronts us. A movement which is insidiously undermining the very foundation of sound opthalmological practice and which threatens to lower the standard of "the most exact of the specialties." A glance at the medical literature of the day shows a tendency to do away with a mydriatic in the estimation of errors of refraction.

We are justly proud of the reputation which American opthalmologists have gained, of being the best refractors in the world. How has this enviable position been attained? By insisting upon the use of a mydriatic, and thus estimating the total amount of refractive errors. Shall we lightly abandon that which has served us so well in the past? In order to answer this question rationally, let us consider, for a moment, the methods used in estimating errors of refraction and the relative value of each.

We have the opthalmoscope, the opthalmometer, the shadow test and the trial lenses.

1. The ophthalmoscope. This splendid instrument has done more than any other one thing to make opthalmology the beautiful study it is. With it we can investigate the hidden mysteries of the eye ball and throw light upon many obscure causes of disease. But the oculist who thinks that he can accurately measure cases of hypermetropia, myopia and astigmatism with it, believes in a delusion and a snare. Some time ago it was my privilege to work with one of the most brilliant opthalmologists of London. He was a man of keen observation and used the opthalmoscope daily on a great number of patients. He prided himself on his ability to refract by the direct method and, indeed, often prescribed glasses without further investigation. But subsequent work by me with retinoscopy and trial lenses made plain the fact that his estimations were often faulty.

2. The opthalmometer. This is an instrument which, when perfected, is destined to be universally used in estimating astigmatism. In its present form, there are limits to its usefullness and many claim that the results are often unreliable. Be this as it may, certain it is that the opthalmometer is to be found in the office of most opthalmologists. If questioned as to its utility each and every man sings its praises and declares that he could not get along without it (this is in theory, but

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practically, the half inch of dust which has accumulated upon its many sides belies the statement and proves it to be more ornamental than useful. I have mentioned these points, not to detract from the merits of the opthalmoscope and opthalmometer, they are grand instruments, but to show a limited value in estimating errors of refraction. We have then, two methods left for consideration, the "shadow test" and the "trial lenses;" a subjective and an objective mode of proceedure.

When used together they enable us to do our work easily, quickly and accurately, provided, however, that a mydriatic is used. Without it the results are very uncertain and unsatisfactory. The shadow test is the most reliable subjective method we have for estimating the amount of ametropia. The skilled eye can refract, in a few minutes, the most difficult case of astigmatism and, with Thorington's "Axonometer" (*Medical News*, March 3, 1894,) find the axis of the cylinder. The method deserves to be more generally used and is especially valuable when we come to deal with children. In these cases, the trial lenses alone are apt to prove unsatisfactory. After we have recorded the results of the "shadow test," we go to the trial box with confidence and select lenses which approximately correct the error. A little addition or subtraction, a slight turn of the cylinder, and we have done. There are many opthalmologists who do not use the "shadow test" in their practice, and a few who do not use a mydriatic. St. Louis is an old offender in this respect, and numbers among her oculists, a few who still cling to the crude and unscientific method, about to be described. It is unscientific becaused it is based wholly upon the statements of the patients. I quote from an article in the "Reference Handbook of the Medical Sciences," Vol. III, page 782. "The accurate correction of the total hypermetropia is the end to be kept constantly in mind in giving convex glasses to a hypermetrope. Nevertheless, it is often better to reach this full correction by successive stages. Thus a hypermetrope with large latent hypermetropia, may find it possible to relax his accommodation fully on first using convex glasses, and may therefore reject neutralizing glasses as impairing distant vision and compelling him to read and work at an inconveniently or uncomfortably short distance. On the other hand, he will probably take very great satisfaction in glasses of somewhat longer focus which fully correct or, perhaps somewhat overcorrect his manifest hypermetropia. After wearing such partially correcting glasses for a few days or weeks, a larger fraction of Ht. will have been rendered manifest and the glasses may then be changed for others of shorter focus and these again for others, until the full correction is reached." This expectant plan of treatment subjects the patient, not only to repeated visits to the oculist, but to the extra expense of purchasing stronger lenses every few days or weeks. If this method should come into general use, it would be a good investment for all of us to become silent partners in the optician business. Why these repeated visits, this extra expense? This leads me to discuss the disadvantages and advantages of a mydriatic.

Disadvantges.—1. The learned author above quoted says: "To spare the patient from the very considerable inconvenience and possible disqualification for work attendant upon the production of complete paralysis of accommodation by the free use of the stronger mydriatics." And I add the following:

2. The patient may object to the use of drops.

3. The possibility of setting up an acute glaucoma.

The first objection could have been raised with propriety in the olden days when atropine was the only drug used to paralyze the ciliary muscle and, in consequence, one had to wait from ten to fifteen days for the effects to disappear. But at the present time when, by using homatropine, we have only a loss of five hours time, this objection is not tenable. Contrast this loss of five or six hours with the loss occasioned by six or eight visits to the oculist and the weary hours of waiting in the outer office before the patient receives attention. The patient may object to the use of drops. On this point Dr. Oliver says (Norris and Oliver, Text-Book of Ophthalmology, page 260): "If certainty is felt that ciliary paralysis is necessary before proper lenses can be chosen, the surgeon had better be prepared to lose the patient than to give him imperfect work." * * * Although this plan may often result in patients seeking advice from others who may rest content with an imperfect correction of some manifest error, yet, in all such instances, it is far more than equivalent recompense to know that the steady, quiet reputation of many years of but little error in refractive work, is infinitely better than the flash like brilliancy of the moment, in quickly giving corrections that may or may not be right.

The possibility of setting up an acute glaucoma by the use of a mydriation. This would be a very important objection if clinical facts sustained it. Listen to the experience of Dr. Risley (*Universal Medical Magazine*, January, 1893): "I have used these drugs with impunity both in private and public practice in many thousands of eyes, during and after middle life, and I have yet to meet the first instance of an acute glaucoma precipitated by the employment of a mydriatic. But I have always taken the precaution to avoid their use, except with the greatest caution in all cases, when there is increased tension of the eyeball, with diminished range of accommodation, not accounted for by other recognized conditions, or with characteristic abnormalities in the field of vision."

Advantages of a Mydriatic.—The recording, for all time, of the total error of refraction. Here we deal with no uncertain quantity; we have the key to the situation and can use the information as our experience and judgment may dictate. As Dr. Bisley says: "In the endeavor to correct the manifest error of refraction, we are dealing with an unknown because an ever changing quantity, which constantly vitiates results, and the

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work done is unsatisfactory because it does not secure perfect relief."

Another advantage of a mydriatic is the dilated pupil which allows us to examine the interior of the eyeball at our ease. We are not forced to screw our eye out of shape, as is necessary when we view the fundus through a pin-hole pupil. We examine the peripheral portions of the lens for striæ, the vitreous for fine opacities, and search the outer parts of the fundus for pathological changes. The impossibility of making the above investigations without the use of a mydriatic, force us to the conclusion that those gentlemen who forego its use, cripple their diagnosis and allow many important points to escape them. Lastly, by using a mydriatic we have the satisfaction of knowing that our work is well done, and that our foundations for the treatment rest upon the rock.

In conclusion, I wish it understood that I do not advocate the use of a mydriatic in every case. I have endeavored to show that it is an invaluable aid to diagnosis, and that the advantages overshadow the disadvantages as the mountain the mole hill. Therefore, the oculist who refuses to use it, will either be dashed to pieces upon the rocks of Scylla or be dragged down into the whirlpool of Charybdis.

The Conduct of Ordinary Labor Through External Examinations Solely.—Leopold and Sporlin (*Archiv f. Gynakologie; Med. News*) make a warm plea for limiting examinations made in the course of ordinary labor to the external parts, and the advantages of such a course. Infection is thereby avoided; the natural sense of modesty of the parturient is not offended; and careless rupture of the membranes is avoided. Skill in extrenal examination is acquired with reasonable readiness. In the large majority of cases such examination alone is sufficient for the recognition of the position and presentation of the fetus, and for the study of the course of an ordinary labor. As there can be no objection to its frequent exercise, abnormalities of parturition may the more readily be detected early, and means of correction promptly employed. Experience soon teaches the difference in the position of the fetus assumed in case of pelvic contraction on the part of the mother. The position and presentation having been recognized by external examination, internal examination for the determination of possible pathologic conditions of the birth-canal need be but brief, and can be conducted with great care. For the attainment of this desirable result it is essential that the obstetric pupil familiarize himself thoroughly with the conditions of normal labor as determined by physical external examination, as well as with the physiology of normal labor. Obstetric operations are principally to be taught upon the phantom.

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EDITORIALS

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The Dangers of Chloral.

The death of Professor Tyndal, who is said to have died from taking chloral, has again attracted the attention of the medical world to the dangers connected with the administration of that drug. A number of cases have been reported in this country where death resulted from chloral-poisoning. Twenty four grains of chloral have caused death in a grown person and two grains and a quarter in a child one year of age. On the other hand, four hundred and eighty grains have been recovered from. When judiciously used the drug is no doubt a most excellent hypnotic and has proved in our hands more reliable than most of the newer hypnotics. We are in the habit of prescribing to grown persons fifteen grains every half hour until sleep is produced. In old people great caution is necessary in prescribing the drug, more so even, than in the case of children. In cases of atheroma, due to old age, in which periodical asthmatic attacks occurred in consequence of weak heart we have given five grains of chloral, repeated every half hour, with most gratifying results, sleep being often produced after the first or second dose and the shortness of breath was relieved. In cases of chloral-poisoning the stomach should be emptied and strong

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coffee and strychnia administered; the body wrapped in warm blankets and bottles containing hot water placed around it.

Chloralamide has been claimed by various authors to be safer than chloral in cases in which there is cardiac weakness, and this assertion is borne out by studies of its pathological action It resembles chloral closely in its medicinal properties and may be administered in the same dose as the latter. We have used the drug with satisfactory results, but it appears to be, in some cases, less certain in its action. Like chloral it has no effect, where sleeplessness is due to pain.

Chloralose is a new remedy which has of late been recommended in various forms of insanity, in simple and periodical mania, dementia, paranoia, melancholia, etc. It is used in doses of five to ten grains. Sleep is produced in forty minutes after its administration and lasts from four to ten hours; it is particularly useful in cases where chloral-hydrate and sulfonal are contra-indicated.

American Medical Association.

The coming meeting of the American Medical Asso ciation at San Francisco promises to be a most enjoyable and profitable one. The character of the papers on the programme and the names of their authors furnish ample guarantee that the scientific part of the meeting will be one of great interest and benefit to all. The committee of arrangements has spared no effort to provide also for the social entertainment of the members, and the many points of interest in and near San Francisco are of a nature to satisfy the most sanguine expectations. Provisions have been made for a stop at Yellow Stone Park, so that those wishing to spend some time in this paradise of Nature may do so without any increase in railroad fare. Present indications are that no physician, who can spare the time, will let this opportunity go by to combine the useful with the beauti ful and get ready to swell the number of earnest and dutiful workers in our profession that will represent medicine and surgery at the coming meeting of this grand body.

Alcoholic Paralysis.

Alcoholic paralysis is a disease with which probably everybody who has had an extensive practice has had practical experience. Its principal symptoms are: Neu ralgic pains, paresthesia in legs, muscular weakness, hyperesthesia, anesthesia, rapid atrophy, pain on press ure to muscles, ataxia, abolished tendon reflexes and vaso-motor symptoms. The treatment consists in ton ics, massage, electricity and proper diet. The prognosis is usually favorable. Dr. J. M. Shepherd has recently publishtd a paper, with the report of a case, in the *University Medical Journal*, in which he gives some of the literature of the subject:

Magnus Huss, in his great work published in 1852, describes the symptoms under five distinct types, according to the predominant symptoms present in any case as (1) paralytic; (2) anesthetic; (3) convulsive; (4) epileptic; and (5) hyperesthetic. In 1864, Lancereaux has systematically described the form of paralysis due to alcohol. In 1867, Leudet reported cases of the hyperesthetic form, with neuralgic pains, muscular weakness, ataxia, anesthesia and cerebral symptoms. In 1868, Dr. Reginald Thompson reported a case of paralysis, perhaps due to alcohol. In 1872, Dr. S. Wilks claimed that he had seen many cases of paraplegia in ladies addicted to alcohol, and described as symptoms, severe pains in the limbs, wasting, numbness, anesthesia, and diminished power of movement. In 1879, Westphal described a peculiar form of walking bearing a certain resemblance to locomotor ataxia. In 1881, Lancereaux published a number of cases in which the symptoms were sharp pain in legs, followed by a combination of anesthesia and hyperesthesia. In 1883 the same author describes the paralysis as being symmetrical, attacking either the upper or lower extremities, gradually extending to the body; the lower extremities are always more affected than the upper, and the extensors more than the flexor muscles. In 1882, Dr. Fisher reported two cases. In 1883, Dr. R. Glynns reported several cases. In 1884, Dr. Broadbent reported a case in which it attacked especially the extensors; knee jerk was absent, no pain or hyperesthesia; hands and feet pale, puffy, and purplish. Dr. Buzzard reported a number of cases, calling attention to the lancinating pains and muscular atrophy, which were present, in 1884. Dr. Lowenfield reported two cases in same year. J. Dejerine published two cases similar to those of Fishers, but which he considered as a variety of locomotor ataxia. Also Dr. Kruche published an article pointing out the great similarity of this form of disease to locomotor ataxia. In the same year, Drs. Moeli and Dreschfield, Charcot and Fere each published cases of alcoholic paralysis, and all claim that the muscles of the face are never involved.

The following diseases are among those of most importance which must be distinguished from alcoholic paralysis:

1. Locomotor ataxia, in which we have loss of knee-jerk, loss of co ordination; lancinating pains in limbs and viscera in both; but the Argyl-Robertson pupil, girdle pains, and Charcot's joints are not found in alcoholic paralysis. In the latter, the paralysis is soon made clear by wrist drop and foot-drop, with tenderness of calf-muscles.

2. Polio myelitis, anterior acute. Here we find no sensory disturbances, such as anesthesia or paresthesia, and the muscles paralyzed are those physiologically associated, while in alcoholic paralysis it is an anatomical one.

3. Acute ascending paralysis. This begins in the feet, and gradually spreading upward, involves the trunk, whereas, in alcoholic paralysis, the extensors of the forearms are the first muscles in the upper extremity

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to become involved, the trunk-muscles escaping, while in the former, sensation is usually not involved nor are trophic changes noted.

4. Spinal meningitis. Here we find intense pain in back, radiating into the limbs; muscles of back rigid, and body often thrown into a state of opisthotonos; no cerebral symptoms; reflexes first increased, and involvement of viscera will distinguish it from alcoholic paralysis.

5. Myelitis. In this we have rapid loss of power, followed by loss of control of bladder and rectum, and in a few days disorders are manifest over parts subjected to pressure; while in alcoholic paralysis these are exceptional.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, April 14, 1894. EDWARD BARCK, M.D., in the chair.

DR. MAYFIELD presented a patient who, 12 years ago, had sustained a compressed fracture of the skull by being thrown from a horse. Four years ago symptoms of insanity developed and the patient became dangerous. No symptoms of epilepsy were present.

Three months ago the trephine was applied and the depressed portion of bone was removed. The dura mater was adherent to the bone, compression was well marked, and a quantity of sub dural fluid of a dark brown color was removed. The patient has recovered and will leave for home in a few days.

DR. T. D. WITHERSPOON read a paper (See page 346), entitled

CAUSATION OF PELVIC INFLAMMATION.

DR. MEISENBACH said that inflammation, in the majority of cases, is due to microbic infection, all other factors supposed to enter into its causation being merely theoretical. He complimented Dr. Witherspoon upon the able and complete manner in which he treated the subject of inflammation and the theories advanced in connection with it, and said that he was glad to see that the essayist took such a decided stand against the dangerous and careless practice of some surgeons and gynecologists in the use of probes and specula. The probe, he said, is and American instrument, and in no other country is it so much used for diagnosis and despicable purposes. It is not a necessary instrument in the hands of a trained and experienced gynecologist and surgeon. The gynecologist should be able to make a diagnosis by bi manual examination in the majority of cases, and does not deserve the name if he fails by the employment of these means. The indiscriminate use of the septic probe and finger is largely responsible for the increase in uterine troubles of the present day, over those existing years ago.

DR. MORRIS thought that Dr. Meisenbach is inclined to criticize the gynecologist too severely. While there is no excuse for using a septic probe or other instrument in surgeory or for diagnosis or treatment in gynecology, and while the probe and pessary are used very much less frequently than formerly, there are cases in which the tampon, probe and pessary may be employed with very great advantage and benefit to the patient. The speaker believed that asepsis, instead of antisepsis, is the correct practice for the modern surgeon and gynecologists.

DR. BARCK believed that we do not fully understand the process of inflammation, although it is one of the most frequent processes with which we have to deal. We may divide inflammations into a mild reparative process, and the rapid progressive type. Our knowledge of this distinction is comparatively recent, and it is this knowledge which has changed things in every line of surgery and also the treatment of inflammations. A limited inflammation occurs after every injury, and from this the severity increases until we have the most rapidly progressive type caused by infection. It is doubtful if this distinction can be kept up, as it will not always explain existing conditions if we reason from cause to effect.

Dr. Witherspoon has given us the ideas of the most advanced thinkers upon the subject from Celsus to Virchow, but did not include the most recent work upon the subject by Lapiere, who also made his observations on the cornea because it is best adapted for the purpose. The speaker recommended the work to Dr. Witherspoon.

DR. WITHERSPOON, in closing the discusion, said that it is hard to say just what inflammation is, nor can we determine it exactly in the chemical or microscopical laboratory. A line can be drawn between a reparative process and an inflammation, but it is doubtful if it will be well defined. Inflammation and repair are not alike. Repair is physiological; it is a condition in which the protoplasmic contents of a cell has been changed by external elements, but not by chemical means, and to which nothing intrinsic has been added. In inflammation, on the other hand, a chemical something has been added which makes the cell protoplasm a different compound and therefore changes the cell function. If we take the protoplasm of a cell and add nothing, we may influence it by purely external conditions and do away with one or two of its functions, still retaining the vital physiological function. When we alter that protoplasm we have something essentially different from the normal, and it constitutes an inflammation. In a lymphangitis, for instance, we have a process that is essentially different from repair. It is a process characterized by exaggerated attempts at reproduction, and is

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the result of a chemically altered cell taking on a different function.

Both antisepsis and asepsis, in the speakers opinion, are indispensable in the practice of gynecology. We should remember that the cervix is the natural habitat of some six varieties of bacteria which, under favorable circumstances, become malignant, and produce trouble higher up unless the cervical canal is cleansed of the muco purulent material.

Dr. J. Ellis Jennings read a paper (See page 350), entitled,

The Necessity of a Mydriatic in Estimating Errors of Refraction.

Dr. Murrell said that the opinion of oculists, in regard to the use of mydriatics, differed very widely. As a result of an inquiry, made about one year ago, it was found that mydriatics were used in from 15 to 100% of cases, in patients under 45 years of age. He had used all the methods and in a recent case which he had examined, he verified the result of an opthalmoscopic examination by a second examination in which he used a mydriatic. The opthalmometer is good but cannot be relied upon exclusively. The "shadow test" is perhaps the more certain of all objective tests, but the pupil must be dilated when using it and this leads to inaccuracies. The reflection may be approximated but not absolutely determined with the opthalmoscope. In hypermetropia glasses may be fitted without using mydriatics, while in astigmatism it is not well to rely upon it. If there is amblyopia, the opthalmometer and "shadow tests" add to the certainty of results.

In reference to the use of mydriatics, the doctor said that he uses homatropine almost exclusively. Accommodation is not always controlled by atropine, cases having been reported in which three months' use failed to restrain accommodation. A great difference exists as to the patients upon whom mydriatics should be used. Dr. Savage uses it only in patients of 45 years or more, while the speaker employs it in almost all young persons.

Dr. Williams thought that the use of mydriatics is necessary only in cases where there is a spasmodic action of the focusing power. This condition obtains chiefly in children from 1 to 16 years of age. The mydriatic homatropine, in his hands, has not proved satisfactory and he uses, in consequence, a four grain solution of atropine. The long continued effect is, of course, an objection, but the results obtained by its use are more accurate.

Recently he had been consulted by a maiden lady 35 years of age, who was a sufferer with constant headaches, for 15 or 20 years. Upon examination without mydriatics, he found her myopic about $^1/_{30}$th. He was satisfied from her history, that she was hypermetropic. After five days instillation of a four grain atropine solution, his suspicions were verified and she required No. 12 glasses. She has worn the glasses constantly and the headaches have entirely ceased.

Dr Barck said that the question of the use of mydriatics has been before the profession for years and, as his experience with them increases, he uses them less often. Hirschberg and Lautell say, that the frequency of the use of mydriatics for diagnostic purposes, stands in inverse ratio to the diagnostic faculties of the physician.

The ciliary muscle, like all other muscles of the human body, is constantly under some nervous influence. The eye is not only an apparatus, but it is a living physiological instrument. In the use of mydriatics, the physiological facts are too much left out of view. The amount of accommodation varies at different ages and should be accurately determined. It varies from 16 dioptrics at the age of ten, to zero at the age of sixty. Then too, the convergence must be considered. Convergence and accommodation are so intimately connected, that accommodation can not be accurately determined without taking the convergence into due consideration.

ABSTRACTS

MEDICINE.

Gonorrhea at the Age of One Hundred and Three.—The interest that may attach to the case presented herewith will be by reason of the advanced age of the patient. It is exceptional enough to meet a man who has passed his one hundredth year, but to find a man at that age suffering from an acute attack of gonorrhea or chancroids is still more exceptional.

Some doubts may be entertained as to the correctness of the age given, but his general appearance, his open frankness in giving all particulars, and the absence of any apparent motive for falsification, go to comfirm it, and a severe cross examination failed to alter any of his statements.

Although no special time is given for the decadence of the sexual functions in the male, the general impression seems to be that the sexual desire is on the wane and disappears long before the allotted "three score years and ten." Yet here is a man, aged one hundred and three, who "feels that he needs it," and in getting it is unfortunate enough to contract chancroids at the age of one hundred, and gonorrhea at the age of one hundred and three.

In the following history the facts bearing on his age and manner of contracting this attack are given somewhat in detail, because of the possibility of doubt of the former, and to illustrate his state of mind in regard to the latter.

A. C ——, aged one hundred and three, native of Ireland, occupation formerly longshoreman, at present

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none, presented himself on January 30, 1894, at the Dispensary of the University Medical College, for treatment.

Examination revealed a copious characteristic gonorrheal discharge, which he stated was only of a few days' duration. Genitals well developed and showing no signs of senility. Complains of painful urination; general health otherwise fair.

In answer to questions he stated as follows, given partially in his own words:

"Didn't know more than that chair about a woman till fifty years of age, because at home you dasn't." Then he married and shortly after he left Ireland. Spent five years in the mountains of Wales, and forty-eight years ago came to this country. His oldest living son is now fifty years, and his youngest thirty-three years of age. His father lived to be one hundred and five, and his mother ninety-five years of age. His second wife died twelve years ago. This the fourth attack of venereal trouble he has had since—the previous attack three years ago, was chancroids, which was also treated at the University Dispensary, and of which he got well in about two weeks.

He feels that he needs a woman. He contracted this gonorrhea from a woman whom he had befriended and assisted; her husband had died some six months previously. She frequently came to him complaining that she had no bread for her children, and he used to "throw" her fifteen or twenty five cents when he had it, because so long as he had a few cents in his pocket, he could not see her children go hungry. She used to come in and drink tea and take a bite, and play a joke, till it came to this that she seduced him. "That's the way she paid me off for helping her children, and I think it will be the end of me."

The following question suggests itself in connection with this case: Could there be any causative relation between the late appearance of sexual activity and its persistence to this advanced age?—A. E. Isaacs, M.D., in *Medical Record.*

Motor Trouble in Malaria.—Dr. Boinet, of Marseilles, at the Intenational Medical Congress held in Rome, Italy, said that, while resident in Tonkin, and also in the hospitals of Marseilles, he had observed a great variety of motor troubles of malarial origin, which he grouped under the following heads:—*Medical Record.*

I. Paralysis.—1. Transitory. These forms were associated with the febrile paroxysm, passing away when that subsided, or at most persisting only a few days; they yielded to the action of quinine. They usually have the characteristics of cortical paralysis. The aphasic varity may appear in simple malarial fever, but is more common in the pernicious forms; it rarely occurs alone, but is more commonly associated with hemiplegia, monoplegia, or paraplegia, hemiplegia occurs with aphasia in about two thirds of the cases. Facial paralysis is rather unusual.

2. Monoplegia is sometimes confined to very limited groups of muscles, being restricted in one case cited to the district supplied by the ulnar nerve. These paralyses are usually limited, not progressive, transitory and curable, varying frequently, however, in seat and in intensity, possessing, in a word, all the characteristics of cortical paralysis. Nevertheless, they may in certain cases be persistent, generalized, and attacking successively the four extremities, being then of medullary origin. Maillot has found, indeed, marked congestion, softening and hemorrhagic foci in the medulla in these forms.

3. Malarial paraplegia may be accompanied by atropy and present the characteristics of beriberi; it is not gradually progressive, like dysenteric paralysis, but is often sudden and complete in its onset, being most pronounced at the periphery; as a rule, the bladder and rectum are not involved. There are neuralgic pains, sometimes fulgurant, at the outset and cutaneous hyperesthesia is often present, though anesthesia may exist from the start. Muscular hyperesthesia with atrophy, was present in one case reported. Sometimes the paraplegia is persistent; this occurs in the pernicous forms of malarial disease or may be seen in intermittent fever following a succession of transitory attacks of paraplegia.

4. Muscular atrophies sometimes appear suddenly, and sometimes are followed by contractures. These atrophies of medullary origin exist en masse, involving at times an entire segment of a limb. The atrophy may also be dependent upon peripheral neuritis (sciatic or ulnar). Certain forms of pseudo-tabes are likewise associated with these peripheral neurites.

II. Convulsive Troubles.—1. Tremor. Rhythmic movements may be induced only by attempt at voluntary motion, or they may persists during periods of repose. They may be limited to the upper extremities.

2. Choreic form: This is often a toxic hysteria of malarial origin. There may also be tremors resembling in type those occurring in paralysis agitans or in pseudo-sclerose en plaques; the author had observed one case of pseudo tabes of malarial origin.

3. Athetosic movements of the right hand: one such case was seen after an attack of pernicious remittent fever.

4. Spasmodic contractions of the left upper extremity.

5. Intermittent tetanus, tetany.

6. Convulsions limited to the thoracic extremities.

7. In one case there was contraction of the upper extremities.

Prognosis.—The cortical paralyses, often hysterical, are the most transitory; the myelopathic paraplegias are the most grave, since well defined lesions of the medulla have been found here. In cases of multiple neuritis the prognosis is more favorable, but is apt to be serious when atrophy occurs rapidly. Finally the prognosis is good in the case of those motor trouble which are often associated with toxic hysteria arising under the influence of malarial poison.

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SURGERY.

An Unusual Accident After Celiotony.—In a celiotomy performed during the past year, the abdominal stitches—silkworm gut—were removed on the eight day, primary adhesion of the wound having occurred without suppuration (E. H. King, M.D., in *Med. News*). There had been persistent ether-nausea from the time of the operation. No opiates had been used. The bowels had been freely opened on the third day by enemata and salines. There was no distention of the abdomed and but slightly elevated temperature.

On the evening of the ninth day violent nausea, retching, and straining occurred, when two-thirds of the extent—about three inches—of the wound were torn open, allowing a part of the colon and omentum and a mass of small intestines to escape. I found the patient in extreme mental and physical shock. The protruding viscera were covered and protected by a towel wrung out of hot water until an assistant could be obtained, when they were returned within the abdomen and the peritoneum secured by fine catgut, and the parietal tissues with silkworm-gut sutures,all without anesthesia. Drainage was provided for by a small roll of iodoform-gauze. At the conclusion of the operation the patient's pulse was too weak and rapid to be counted; she was in great pain, and very restless. Free use of morphin, atropin, and strychnin was made, and emenata of hot beef-juice and whiskey were given. This was kept up at regular intervals for forty-eight hours, without any perceptible effect save to relieve pain, nausea, and restlessness; but after this the pulse began to increase in volume and decrease in frequency. The peritoneum united primarily and the parietal tissue secondarily, with but slight and superfical suppuration The patient made a slow but good recovery There is at present a small linear cicatrix, with no tendency to hernia.

It occurs to me, in view of the possibility of such an accident, that in clean celiotomies—that is, in operation in which the wound can be completely closed without the nececsary drainage—it would be a safeguard to fasten the omentum to the abdomen behind the incision, securing it by a stitch at the lower end of the wound, where by adhesion it would be interposed between the viscera and the weakened part of the abdominal wall, thereby reinforcing and stengthening it.

Successful Treatment of Tuberculous Meningitis by Trephining and Drainage of the Sub-Arachnoid Space.—Ord and Waterhouse (*Lancet,*) have reported the case of a girl, five years old that had suffered with pain in the head for a month with occasional vomiting, imparied appetite, constipation, and fretfulness. The child was dull and heavy in appearance and was very restless, from time to time uttering a shrill scream. She lay with her head bent forward and her legs drawn up. The temperature was slightly elevated, the pulse regular and accelerated but weak, the respiration normal. No lesion of the thoracic or abdominal viscera could be detected. There was marked tache cerebrale. The knee-jerks were normal. There was commencing optic neuritis in both eyes, more marked in the left The pain and the optic neuritis increased in intensity, the pulse became irregular, the child became lethargic and apathetic, and from time to time uttered a hydrocephalic cry. The pupils, at first contracted, subsequently became dilated, but strabismus or ptosis wae not observed. The membranæ tympani were healthy. It was agreed that the condition was a tuberculous meningitis and in view of impending coma as a result of intra-cerebral pressure it was decided to open the sub-arachnoid space and afford drainage for a few days. A trephine-opening was made in the skin on the left side, between the mastoid process and the external occipital crest. The dura bulged into the opening, but no pulsation was visible. The dura and arachnoid were incised, and some thirty drops of a slightly greenish fluid escaped. The cerebellum then bulged into the opening. A silver probe, bent at the right angle, was then introduced between the cerebullum and the arachnoid, and directed inward toward the falx cerebelli. As soon as the latter was felt the probe was rotated, so that the end projected toward the sub arachnoid space, between the cerebellum and the medulla. Some drams of serous fluid at once escaped. A drainage-tube was then passed along the probe and left in position. It was found that the fluid passed very slowly along it. The dura was then sutured, and the fragmented disc of removed bone replaced, room being left for the drainage tube. The flap was adjusted with horsehair sutures and the wound was covered with cyanid dressings. The child bore the operation well. The wound discharged rather freely, and the optic neuritis gradually receded. On the eleventh day the wound appared to be breaking down, and the stitches were removed, presenting gelatinous looking granulations, in which, however, no specific elements were found. Neither was it possible to find tubercles or hemorrhages in the choroid. The drainage-tube was removed on the eighteenth day and the child was well at the end of the month. Although, in view of the fortunate result, it is admitted that the evidence is not conclusive, it is nevertheless maintained that the case presented the classic picture of tuberculous meningitis, a diagnosis which was concurred in by all of the eight medical men who saw it before operation.

Bacteria and Molds—Since the first discovery of bacteria, biolongists have recognized a close relation between these vegetable organisms and those which are commonly known as molds, or fungi. Prof. Franklin has recently made a careful study of these two classes of organisms with special reference to their action upon organic substances. He states that molds produced an oxidation or combustion, while bacteria produced the catalytic change commonly termed fermentation.

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NOTES AND ITEMS

The Prognostic Value of Creosote in Tuberculosis.—M. Burlureaux (*Lyon Medical;* New York *Med. Journ.*) concludes from an extended observation that creosote is of greater diagnostic value than tuberculin. He has found that where patients can not tolerate creosote in ever so small a dose they are usually beyond hope, but where they can support large doses their chances are good for complete cure. When the drug is not tolerated the phenomena are very marked; directly after the injection the temperature begins to rise and increases for several hours, after which chilly sensations occur with a drop of the temperature to subnormal. All the other symptom of poisoning with creosote are present. If the drug is borne no unpleasant features develop, but all the symptoms, such as fever, sweating, and so forth, of tuberculosis disappear, and the patients at once began to improve. Intolerance of the medicament is the test of depreciation of the organism and deterioration of the vital powers.

The Chicago Medical Society.—The Publication Committee, on behalf of the *Chicago Med. Rec.* will give two prizes of $100 each for the best papers submitted before the Chicago Medical Society during the year 1894-5. The editor, Dr. Church, must be notified of each paper entering the contest at the time it is read before the Society. It is intended to increase the amount and number of these prizes as the profits from the *Recorder* may justify, and all members of the Society are urged to continue their cordial support of the journal and, other thing being equal, to give our advertisers the preference when prescribing. It is also suggested that whenever a worthy article for physicians' use is presented by agents the advice be given to advertise in the *Recorder.* The *Medical Recorder* is now self-sustaining, and will require no further financial aid from the Society, but in the way suggested much can be done toward increasing the fund for prizes, which will secure original and valuable work and add greatly to the importance of the Society.

E. J. Doering, John A. Robison, Archibald Church, Committee on Publication.

Microbes in the Alimentary Tract.—Drs. Gilbert and Dominici (*Med. Rec.*) read a paper on the number of microbes found normally in the digestive tract. They computed the number of microbes per milligramme in the fecal matter of two adult men. In one they found 67,000 microbes per milligramme, in the other 80,000. By a simple calculation it is seen that if the normal amount of fecal matter is 167 grammes that it will contain twelve thousand millions microbes. As to the relative number in different parts of the canal they attempted to compute by experimenting on dogs. One dog was killed two and a half hours, the other three and a half hours, after a full meal. In the stomach there were 49,000 for each cubic millimeter and in the duodenum 29,000. From the pylorus to the cecum the number augmented progressively, so that in the jejunum there were 100,000 for each cubic millimeter. From the cecum to the rectum there were 30,000. Contrary to the opinion generally held, their experiments prove that the acid of the gastric juice is not mortal to the microbes. Another interesting fact is the rapid decrease in the number of microbes the moment the large intestine is reached.

President Eliot on Intercollegiate Sports.—President Eliot's annual reports was made public on the 20, ult. He says:

"In the highly competitive sports which gave rise to exciting intercollegiate contests—namely, boat-racing, baseball and football—there have been developed in recent years some evils of a serious nature. No sport which requires of the players more than two hours a day during the term time is fit for college use. No student can keep up his studies and also play his full part in any one of these three sports as at present conducted. There is something extermely inappropriate in the extravagant expenditure on athletic sports at such inititutions as Harvard and Yale. In the game of football the players have been forced by public opinion to overtrain and overwork, until there is great risk of injury and even death. To become brutal and brutalizing is the natural tendency of all sports which involve violent personal collision between the players, as in football."

In the matter of remedies the President suggests the following changes:

1. There should be no freshman intercollegiate matches or races.

2. No games—intercollegiate or other should be played on any other but college fields belonging to one of the competing colleges, or in the college town.

3. No professional student should take part in any intercollegiate contests.

4. No student should be a member of a university team or crew in more than one sport within the same year.

5. No football should be played until the rules are so amended as to diminish the number and the violence of the collisions between the players, and provide for the enforcement of the rules.

6. Intercollegiate contests in any one sport should not take place oftener than every other year.—*Med. News.*

WITH THE SUN high in the heavens, shedding its powerful rays full on suffering humanity, those who have prepared themselves for the siege of hot weather can laugh in derision. There is one place on the American Continent to properly condition the system for this onslaught, and that is the famous Hot Springs of Arkansas with its excellent baths.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit, to insure this, a clear and concise history of the case is essntial, in order, either, to make a correct diagnosis or to give a satisfactory reply.—[ED.

Omphalitis.

Inflammation of the umbilical cord is a condition frequently existing in the foal a short time after birth, at times disappearing spontaneously, at others terminating in local abscesses, while still others result in a general blood disorder causing multiple abscesses in various internal organs, and suppuration in one or more of the articulations. When taking this latter course it constitutes the disease known as "arthritis in foals," and with which we shall more particularly deal.

HISTORY.—Both omphalitis and its sequel, arthritis, have long been known, but it is only of late years that the relation existing between the two has been recognized. A description of arthritis, considered as an independent affection, appeared in 1781, since which time its etiology has been carefully studied, divers opinions resulting. Some maintain that it was of scrofulous origin; others, that it was due to a diminution of the salts of the blood; others, that it was congenital; and still others, that it was due to a poor quality of milk furnished by the dam. It was not however, until the observations of Bollinger in 1869–70, that the true etiology was discovered. He noted the complete analogy existing between the lesions of arthritis and those of omphalitis, and further investigations by himself and others have confirmed the conclusions then drawn. So that now, instead of regarding them as separate and distinct diseases, we look to omphalitis for the cause of arthritis, and in preventing or curing the former, we prevent and mitigate the latter.

As the conclusions regarding the cause and nature of this disease have been largely deduced from data obtained by observing the symptoms exhibited during life, and by an examination of the body after death, an understanding of those conclusions will be facilitated by first regarding the conditions upon which they are based—namely, the symptoms and post-mortem appearances.

SYMPTOMS.—These vary, depending upon the exciting and predisposing causes, but, typically they may be given as follows:

The appetite gradually fails, the respirations are increased in number, temperature elevated, eyes presenting a sunken appearance, the bowels may be obstinately constipated or diarrhea may be present. There may be entire suppression of urine, or two or three times the normal quantity may be discharged, not only through its natural channel, but also at the umbilicus, the urachus remaining pervious. At times the urine is passed with great difficulty, being of the appearance and consistency of white of egg.

At the umbilicus the cord frequently appears moist, having a dirty grayish red appearance, and a purulent discharge from one or more of its vessels, thus plainly indicating an inflammatory condition. In other cases however, the cord dries in an apparently normal manner, drops off, and there is then exposed a small, angry, teat like projection, which indicates the existence of an inflammation in the parts within the body.

This condition may be discovered prior to the dropping off of the cord, by a careful examination along the line of demarcation between the two, a narrow inflamed area usually being visible.

The above condition would be very likely to escape the notice of any one but a close observer, and the first thing to draw attention to the fact that something was wrong with the animal, would be the appearance of lameness in one or more of the limbs; and even this is frequently attributed to some direct injury to the part, and no attention is paid to the true source of the trouble and not until suppuration is well established, and the constitutional symptoms before mentioned make their appearance, is it realized that something beside a mere local injury is the source of the mischief.

At the joint the swelling is at first tense, but later it becomes fluctuating, showing the formation of pus which frequently burrows down the limbs, following the line of least resistance. The pus finally breaks through the skin, producing open joint.

After the appearance of the joint complications, the recumbent position is usually maintained and as the disease advances dropsical swellings appear along the abdomen and chest; the animal is "tucked up at the flanks," appetite completely lost, dyspnea more pronounced, emaciation and prostration gradually increase and death soon takes place.

POST-MORTEM APPEARANCES.—Viewed externally the body shows great emaciation, as above indicated, with feeble *rigor mortis*. Upon removing the skin, the subcutaneous tissue is seen to be infiltrated, and that surrounding the joints in some cases is darkly stained. The peritoneal and pleural cavities contain a purulent fluid. The liver and lungs, and sometimes the heart and kidneys, contain multiple abscesses. The urachus is black, the mucus membrane of the bladder is darkly stained, similar to the subcutaneous tissue around the joints, and the bladder itself contains a dark, blood-colored fluid. The umbilical vein, rarely the artery, contains a thrombus undergoing yellow puriform softening, frequently being directly continuous with one in the portal vein. The stomach and intestines are distended with gas; the former frequently containing recently administered food and medicines.

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In the joints, the cavity is often found filled with coagulated lymph, but after suppuration is established this has usually disappeared. The capsular ligament has lost its synovial lining and is undergoing suppuration; the articular cartilage is destroyed; the bones are undergoing rarefying osteitis, and pus is formed in the medulla of the shaft.

Other conditions mentioned by Bollinger as being present are: "Vast intra muscular, or subcutaneous abscesses, cutaneous erysipelas, purulent irido choroiditis, and tumefaction of the bronchial and mesenteric glands."

NATURE.—From the ubiquitious character of the lesions above mentioned, it is evident that the irritant, whatever it may have been, was carried by the blood, and it has been found that the injection into the veins of a drop of blood taken from a diseased animal, resulted in the formation of numerous abscesses in the liver.

The presence of the abscesses in the various parts indicates that there the irritant lodged, setting up an inflammation, upon the virulence of the irritant will depend the production of either acute abscesses, as seen in the liver and lungs, or a diffuse suppuration, as often witnessed in the joints.

From this we see that the disease in question is essentially a septicemia characterized by the formation of secondary metastatic abscesses, namely pyemia, a condition which has been carefully studied in late years, and is now known to depend upon the presence, growth, and development within the body of various pyogenic micrococci, and which in the vast majority of cases gain entrance to the body through some external wound.

CAUSES.—Of these we recognize (1) exciting; and (2) predisposing.

1. *Exciting.*—As before intimated, the exciting cause must be regarded as being one or more of the varieties of micrococci known as being the cause of pus formation. Of the second varieties known to cause this condition, the most important, and that most frequently found, is the streptococcus pyogenes, the staphylococcus pyogenes albus, and the staphylococcus pyogenes aureus, the first being associated with the more diffuse suppurations, while the latter two produce the more circumscribed varieties, sometimes stopping short even of suppuration, and causing only inflammation. The recent wound in the umbilicus affords a ready means for their entrance into the system, their admission and further development being aided or retarded by the presence or absence of predisposing causes now to be enumerated.

2. *Predisposing*—(*a*) Season of the year. Observations show that a greater percentage of foals dropped during the months of July and August suffer than those dropped at any other time, other similar conditions being equal.

(*b*) Injury to the umbilical cord either during parturition, at the time of rupture, or subsequently from external damage.

(*c*) Septic surroundings, such as low damp pasture, or the presence of filth, or of other animals suffering from this same condition.

(*d*) Weakly state of the animal at time of birth, the result of the dam being overfat or debilitated, or the young creature receiving milk deficient in quantity or quality.

METHOD OF INFECTION.—The primary inflammation at the umbilicus may involve all the vessels of the cord at that point, the vein however, being the one principally affected, and the one from which the greatest damage results. But the urachus is frequently involved, the inflammation passing up to the bladder, here usually localizing, a continuation of the process up the ureter being seldom met with. When this is the case the lumen remains patent allowing the escape of the urine at the umbilicus.

In the vein the inflammation passes up along its course to its junction with the portal vein at the transverse fissure of the liver, and here the purulent products of the inflammation and the pyogenic cocci, which may be present, are in direct contact with the circulating blood.

From this point the infective material gradually enters the system as emboli formed by the breaking down of the thrombus found in the vein at this time, and which, from the presence of peptonizing agents is undergoing softening. Passing into the portal vein, and becoming lodged in the smaller veins or capillaries, they set up their specific irritation, causing a thrombus at that point and an abscess in the surrounding tissue. By the breaking down of this thrombus the infective material gains the posterior vena cava, and passing through the right side of the heart and lungs, it reaches the systemic circulation, and may then arrive at any part of the body. In other cases the emboli may be so small as to pass directly through the liver and lungs and thus gain at once the systemic circulation.

The cocci have also been traced from a wound into the connective tissue interspaces, and also into a vein (Klebs), so that the lymphatic glands may become affected in this manner, and also individual cocci may gain access directly to a vein, from the original point of infection, and in a like manner from any of the secondary abscesses.

As to the reason why the joints are affected in preference to other portions of the limb, the following three causes may be regarded as influential:

1. That there is a specific tendency to attack serous and synovial membranes.

2. That, owing to the extreme smallness of the capillaries in the joints, emboli which could pass through other parts lodge here.

3 The struggles of the young animal in endeavoring to get on its feet, especially its first attempt, may cause in the joints—imperfectly prepared for such efforts—congestion and inflammation, with a consequent slowing of the blood-current, thus enabling the organism to lodge—a condition necessary before it can exert its irritant effects.

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TREATMENT.—It is evident from what has been stated that we have to deal with a disease which at all times is of a very serious character, and treatment must be begun at an early stage, and be prompt and decisive in order to be successful. Nevertheless cases have been cured in which suppuration in the joint has been well established, and treatment should be attempted in all instances in which a fair amount of strength and appetite remain.

Recognizing that the active factor in the production of the disease is the growth and development within the body of certain bacteria, which gain access to the system from a primary focus at the umbilicus, and this focus constantly producing fresh supplies of the organisms, we see that our course must be:

1. To destroy the center of infection.

2. To overcome the action of the organisms already in the system by:

a. Seeing that the animal receives a sufficient quantity of milk of good quality to maintain its strength.

b. By the administration of such drugs as tend to improve the general condition, and which may at the same time prove inimical to the life of the organism.

c. By local stimulating and antiseptic applications at any part where the organism has secured a firm hold and is overcoming the tissues.

Therefore the first step should be the application to the umbilicus of a solution of corrosive sublimate (1 to 1,000), and the injection directly into the umbilical vein of ℥ss of the same solution repeated three times daily for the first few days, the animal being placed upon its back at the time.

Should the urachus be also involved, and the urine escaping, it should also be injected, probably however with some other antiseptic (boracic acid ℥ij to aq. ℥xvj, would answer as well as any); and it should not be ligatured as is sometimes recommended, but free escape of its contents allowed.

Heat and moisture should then be applied to the abdomen, as this greatly increases the migration of leucocytes to the part, and these will have a marked effect in overcoming any infective material not reached by the injections.

The animal should be placed in a cool shady place and every attention paid to its comfort, the utmost cleanliness being at all times observed.

We must now see to the appetite and food of our patient and it must be noted that during the time the disease has been developing, the teat has been more or less neglected, and frequently when treatment is begun the mammary glands of the dam are hot and swollen from retention of milk. In this case the colt should be weaned, and fed on cow's milk, allowing two or three ounces every two hours, gradually increasing the quantity as the animal becomes accustomed to it. Should however the mammary glands be in good condition, the colt should be allowed to take its nourishment from the dam, care being observed that it takes sufficient to keep the mammæ in good condition; otherwise the mare should be frequently milked, and the milk offered to the colt; it will often take it in this way when it will not suck.

The medical treatment should consist in the administration of tonics, stomachics, stimulents, antiseptics and alteratives. The two following prescriptions will be found useful in most cases, being given alterately, and three doses of each daily:

No. I.

℞ Quin. sulp., - - - - - ℥ ij.
Ac. sulphurici q. s. ad solve
Ext zingib, - - - - - fl℥vj.
Spts. rect.,
Aq. - - - - - aa. q. s. ℥xij.
M.
Sig. ℥ss in Aq. ℥ij three times daily.

No. II.

℞ Hg. chlor. corros., - - grs.iij.
Pot. iod., - - - - - ℥ij.
Aq. - - - - - ℥xij.
M.
Sig. ℥ss. in Aq. ℥ij three times daily between doses of No. I.

Should the bowels be constipated, give enemas of warm water, and if these fail to act, administer the following:

℞ Ol. ricini., - - - ℥ij ad iv.
Ext. zinjib., - - - ℥j. ad ij.
M.
Sig. As directed.

If diarrhea be present, it may be also necessary to give the same purgative as above, combined, however, with Tr. opii. ℥j, and after its action the same quantity of Tr. opii. may be given with each dose of the quinine mixture, until the bowels are again in a natural condition.

In the local treatment of the joints affected, if there is no fluctuation showing the presence of pus, a stimulating and antiseptic liniment should be well rubbed into the the joints twice daily.

The following will be found a good formula for such a liniment:

℞ Iodi., - - - - ℥xv.
Pot. iod., - - - - - ℥vj.
Flyc., - - - - - ℥ss.
Aq. - - - - - - - ℥j.
Spts. rect. q. s., - - - ℥xvj.
M.
Sig. Rub in thoroughly twice daily.

If pus is present, an opening should at once be made to allow it to escape, and the joints treated as before. In addition, the cavity should be injected with the liniment above mentioned, as it renders it aseptic, and almost immediately stops the sloughing of the articulation tissues, which frequently proves a serious complication.

Of course, modifications of, and additions to, the above treatment will be necessary and will be suggested to the practitioner as the cases are met with. But the main point, and the one which must never be over-

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looked, is the rendering aseptic of the umbilicus and its vessels.—U. H. Ulrich, V. S., in *Veterinary Journal.*

QUERIES.

What Caused the Death of the Foal?—A mare about 12 P.M. was delivered of a strong colt foal, and both mare and foal appared all right. Two hours later the foal seemed to have some difficulty in empting the bowles, but my man got it relieved, dung being passed freely enough. About six o'clock, the foal seeming to be in pain, the veterinarian was sent for, and gave an injection of soap and water, with the result that it purged very badly, and continued doing so until it died about 8 P.M., passing blood in the end. It had got about a tumblerful of milk, and was sucking early in the morning, but after the injection it got very bad. Was it not a mistake to give so young a foal an injection? What treatment should be adopted in a similar case? I am, &c., INQUIRER

A *post-mortem* examination would probably have answered your injuiry and explained the death of your foal. It would have been important to ascertain the state of the bowels, whether there was any displacement, leceration, or inflammation, from what the blood came, and whether anything had been introduced into the canal by the mouth or rectum more irritant than soap and water. Soap and water injected with a proper syringe would not produce, even in a foal a few hours after birth, continued purging, discharge of blood, and death. Injections of this sort are frequently used for such young animals, and are more suitable and safer than purgatives. One piece of information furnished should have been further investigated. When the foal, in the first instance, had 'some difficulty in emptying its bowels,' how did the man in attendance, as stated, 'get it relieved'? Were any mechanical means used? Was any physic given? In such circumstances, especially where results are unsuccessful, it usually becomes difficult to learn what measures have been adopted by well-meaning but ignorant attendants; but, as above indicated, a competent *post-mortem* would have cleared up this matter. The best advice you can have in similar cases, if our suspicions are justified, is to forbid absolutely all amateur doctoring. ED.

KANSAS CITY MEDICAL INDEX, Edited and published by Emory Lanphear, M.D., Ph.D., Surgeon to the Children's Hospital and to the German Hospital; Professor of Operative and Clinical Surgery in the Kansas City Medical College.

KANSAS CITY, MO., March 26, 1894.

DIOS CHEMICAL CO., ST. LOUIS, MO.—

GENTLEMEN—It gives me much pleasure to state that SENNINE is giving satisfactory results in the treatment of cases of coxitis and other suppurative diseases where an antiseptic agent is required.

EMORY LANPHEAR.

RAILROAD NEWS

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

American Medical Association Meeting, San Francisco, June 6-8, 1894.

Delegates to the American Medical Association meeting to be held in San Francisco, June 6-8, 1894, in selecting a route to the Pacific Coast, should not overlook the superior advantages offered by the Denver & Rio Grande Railroad.

This Railroad is not surpassed in any respect by any of the transcontinental lines, and in the manner of scenery it has no equal. The "Scenic Line of the World" operates Pullman and Tourist cars between Denver and San Francisco and Los Angeles.

On all Mid-Winter Fair and nine months tourist tickets, the Denver & Rio Grande allow stop-overs, thus enabling the tourist to visit at the noted Health and Pleasure Resorts along the line in Colorado and Utah, the most noted of which are Colorado Springs, Manitou, Glenwood Springs and Salt Lake City.

Pamphlets descriptive of the beautiful scenery on this line and full particulars, can be obtained by addressing S. K. Hooper, G. P. and T. A., Denver, Col.

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Announcement.—American Medical Association Convention to be Held at San Francisco, Beginning June 5, 1894

The official train of the Association will leave Chicago at 5 P.M., on Monday, May 28, via the Santa Fe Route. It will be made up of Vestibuled Pullman Palace Sleeping Cars. At Kansas City a stop will be made of sufficient length to enable passengers to make short trips of inspection over the city. The train will arrive at Colorado Springs on the morning of the 30th, where a stop of several hours will be made. Denver will be reached at about 4 o'clock in the afternoon. At that point the party will be given a reception by the Colorado Medical Society. The evening and most of the night will be spent in Denver. At an early hour on May 31 the train will depart from Denver for the purpose of making a daylight tour through the great Colorado resorts, and when the passengers awake that morning it will be to find themselves in the heart of Rocky Mountain scenery. This ride includes Colorado Springs, Manitou, Cascade Canon, Ute Park, Green Mountain Falls and Woodland Park—all clustered around the base of Pike's Peak—Buena Vista, Leadville, Hagerman Pass, Red Rock Canon and Glenwood Springs. The last named point will be reached in the middle of the afternoon on the 31st and a stop will be made until 10:30 P.M., same day. At 12:30 P.M. the following day, June 1, the train will reach Salt Lake City, where a stop will be made until 11:45 P.M. of the same day. The party will reach San Francisco June 3, at 9:45 A.M.

ONE OR MORE SPECIAL PULLMANS, AS MAY BE NECESSARY, WILL ALSO BE RUN FROM ST. LOUIS, 8:30 P.M., MAY 28, CONNECTING WITH THE TRAIN FROM CHICAGO AT BURRTON, KAN.

The foregoing is an approximate schedule and is announced at this time for the benefit of those who desire to know as early as possible what provision has been made for their comfort and pleasure en route to the Convention.

The Pullman cars will be at the disposal of the patrons of this train from the time they leave Chicago and St. Louis until they reach San Francisco, and the cost for a double berth will be from Chicago, $15.50; from St. Louis, $14.50, and from Kansas City, $13.00.

Between Chicago and Kansas City meals will be served on the superb dining cars of the Santa Fe Route at the rate of $1.00 each. From St. Louis and Kansas City to Glenwood Springs they will be furnished at the eating houses of the Company, which are nowhere excelled. The cost of meals at Santa Fe eating houses is seventy-five cents each.

The cost of railroad tickets for this occasion will be $85.50 from Chicago, 77.50 from St. Louis and $65,50 from Kansas City. The tickets expire July 15 and carry a transit limit of fifteen days in each direction. Passengers will be given choice of any authorized route returning. Holders of tickets returning via the Santa Fe Route by way of Albuquerque, will be allowed fifteen days east of that point in which to reach Chicago or St. Louis, or intermediate points. Those who desire to return via Portland will be charged $15.00 over the rate above mentioned.

The route indicated in the foregoing itinerary has been described at length from the standpoint of the tourist in a profusely illustrated book of one hundred and fifty pages, entitled "To California and Back." This book will be sent free of charge to any person who contemplates attending the Convention in San Francisco. Patrons are invited to use—returning—our route through Southern California, Arizona and New Mexico, which is designated as the Grand Canon Route, for the reason that in addition to the numerous scenes of interest traversed by this line, it leads the traveler through that portion of Arizona in which the Grand Canon of the Colorado River is accessible. This tremendous gorge has been partially described in an illustrated book devoted to its wonders, entitled "The Grand Canon of the Colorado River," which also will be furnished free on application.

The advantages of an official route upon an occasion of this character lie in the fact that the journey can be made more enjoyably and more profitably by a large number of persons of congenial tastes, bound together by the ties of a common profession and experience. The advantages of selecting the Santa Fe as the official route is due to the fact that it is the Greatest Railroad in the World, with nearly ten thousand miles of its own tracks in fourteen states and territories; and it uses only the best equipment; that the quickness, safety and comfort of its train service are unequaled; that the interest of the scenes along its line is unflagging, and that special privileges will be accorded the patrons of this particular train.

A list of the principal agents of the Santa Fe Route throughout the Middle and Eastern States will be found below. Apply to the nearest for copies of the descriptive books above referred to and make your Pullman reservations through him well in advance of the time of starting.

Atchison, Kan., corner Third and Main Streets, J. E. Watson, passenger and ticket agent.

Boston, Mass., 332 Washington street, S. W. Manning, general New England agent; O. M. Chandler, traveling agent; Herbert A. Clay, traveling agent; Wm. T. Clarkson, traveling agent.

Buffalo, N. Y., 68 Exchange street, J. N. Bastedo, passenger agent.

Chattanoogo, Tenn., 111 Ninth street, E. F. Sisson, Southern passenger agent.

Chicago, Ill., 212 Clark street, J. M. Connell, City passenger and ticket agent; Monadnock building, H. N. Butterfield, Northern passenger agent; Monadnock building, C. A. Hartwell, traveling passenger agent.

Cincinnati, Ohio, 169 Walnut street, Geo. T. Gunnip, passenger agent; Robert E. Breder, traveling passenger agent.

Cleveland, Ohio, 213 Bank street, F. T. Hendry, passenger agent.

Colorado Springs, Colo., C. C. Hoyt, city ticket agent.

Dallas, Texas, Grand Windsor Hotel, W. G. Wilkins, passenger agent; W. A. Tuley, traveling passenger agent.

Denver, Colo., Boston Block, H. Collbran, general agent; 1700 Lawrence street, J. P. Hall, Colorado passenger agent; 1700 Lawrence street. Jno. J. Slavin, traveling passenger agent.

Des Moines, Iowa, Savery House, S. M. Osgood, general agent; J. C. Dietz, traveling agent.

Detroit, Mich., 63 Griswold street, G. E. Gilman, Michigan passenger agent.

El Paso, Texas, Wells, Fargo & Co's building, C. H. Morehouse, division freight and passenger agent; C. C. Carpenter, traveling agent; W. R. Browne, city ticket agent.

Fort Worth, Texas, 403 Main street, W. Doherty, passen- agent.

Galveston, Texas, 224 Tremont street, Max Naumann, passenger agent.

Houston, Texas, 208 Main street, R. D. Field, passenger agent.

Kansas City, Mo., 1050 Union avenue and norteast corner Tenth and Main streets, Geo. W. Hagenbuch, Passenger and ticket agent; 1050 Union avenue, Chas. L. Seagraves, traveling passenger agent; W. J. Janney, traveling passenger agent.

Leavenworth, Kan., 320 Delaware street, Geo. J. Chaplin, general agent.

Minneapolis, Minn., 515 Guaranty Loan building, E. Burdick, general agent.

Montreal, Que., 136 St. James street, D. W. Hatch, traveling agent.

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New York City, 161 Broadway, Chas. D. Simonson, general Eastern agent; E. F. Burnett, Eastern passenger agent, Chas. A. Marsh, traveling passenger agent.

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Medical Congress.

The Congress of American Physicians and Surgeons which convenes in Washington, D. C., May 29 to June 1, 1894, will doubtless attract a great many physicians to the National Capitol. Those who do not travel via the Baltimore & Ohio Southwestern will miss one of the most delightful trips on the Continent.

Washington is itself a charming place to visit at this time of the year. It is the center of the Republic in effect, though perhaps not in fact and every one is anxious to visit it.

There is also a charming way to get there. That is over the Baltimore & Ohio Southwestern. This line has, to offer beside, the beauties of a trip over its lines, with the comforts of Pullman Dining, Parlor and Drawing Room Sleeping Cars. Special low rates made for this occasion.

It is the only Pullman Route to Washington and makes better time than any of its competitors. If you are going it is only necessary to ask any representative of the line to have the above fully verified. The St. Louis office is at 105 North Broadway. An illustrated "Guide to Washington" with map of the city will be given to every passenger via the B. & O. S. W. (formerly O. & M.). Further particulars may be had from O. P. McCarty, General Passenger Agent, St. Louis, Mo.

The Big Meeting at San Francisco.

The special official excursion of the American Medical Association to attend the annual meeting to be held at San Francisco, June 5 to 8, 1894, leaves St. Louis, Saturday, May 26, at 8 P.M., via the Missouri Pacific and Union Pacific Railways.

The Excursion Train for this grand tour across the States of Missouri, Kansas, Colorado, Wyoming, Utah, Nevada and California, passing through the Rocky Mountains and the beautiful Salt Lake Valley, will be in charge of the McLean Excursion Company, under the special supervision of representatives of the Missouri Pacific and Union Pacific Railways during the entire trip, and the most complete arrangements possible for the Grandest Excursion ever made in this country will be guaranteed. Every detail will be carefully looked into and properly arranged for. The train will consist of Pullman Vestibuled Sleepers, Baggage and Smoking Cars, and will run through to San Francisco on special time, stopping three days at Denver and two days at Salt Lake City; also all points of interest en route. While in Denver the excursionists will make side trips into the interior of Colorado, giving them a view of the very heart of the Rocky Mountains.

The tickets for the Round trip will cost $150.00 from St. Louis and Memphis, and $140.00 from Kansas City, and will entitle the holder to First-Class Transportation for the entire trip from St. Louis, Memphis or Kansas City, to San Francisco and return to St. Louis, Memphis or Kansas City—returning to St. Louis either through Kansas, via Kansas City, or through Nebraska, via Omaha.

The tickets will also entitle the holder on going passage, as per Itinerary, to Sleeping Cars by night and day, first-class Hotel accommodations, Meals en route, special Carriage Drives and side trips, by rail, free transfer of self and baggage between hotels and depots en route, with transfer of same to hotel in San Francisco, free transportation of 150 pounds baggage to each full ticket; in fact, every necessary expense from St. Louis, Memphis or Kansas City, to delivery of Excursionists to their rooms at the hotel in San Francisco, and will cost excursionists less money, with more select accommodations, than can possibly be secured by parties making the trip on regular trains.

The Return Tickets are good via the Union Pacific Railway to St. Louis via Kansas City or Omaha, and to Memphis via Kansas City, or over any of the direct trans-continental lines. Any of the direct routes may be selected for return passage without additional expense, provided the selection is made before leaving the Missouri River Terminals.

For tickets returning from San Francisco via the Oregon Railway & Navigation Company's Steamship Line, or by rail via the Mount Shasta Route to Portland, thence via the Oregon Short Line to Missouri River, $15.00 additional will be required. For tickets returning via Portland and St. Paul, or Minneapolis, or through Portland, Vancouver, B. C., Winnipeg and St. Paul or Minneapolis and direct lines to St. Louis, $15.00 additional will be required.

At Salt Lake, besides visiting leading points of interest in and around the city, a trip will be made over the Utah Division of the Union Pacific System to Garfield Beach, Utah—the most remarkable bathing place in the United States. Carriages will also be furnished free in Denver and Salt Lake to visit points of interest. At all places en route the very best hotels have been secured for the entertainment of the party, and at San Francisco arrangements will be made to quarter the entire number at the best hotels. Special arrangements have been made with all the railroad eating houses en route for extra first-class meals, and ample time will be allowed at all such points, obviating hurry or confusion.

As the comfort and pleasure of the guests of this special train are the only objects to be attained, no expense will be spared to secure arrangements that will guarantee perfect comfort and enjoyment. The sleeping cars will not be crowded. A double berth will be allowed for each full ticket and a full section for each married couple.

This Excursion will be in charge of the McClean Excursion Company, and Jas. F. Aglar, General Agent, Union Pacific System, St. Louis, who will make all sub-contracts, and with a full corps of conductors, baggage agents, guides and special porters, will take entire charge of the party and assume all responsibility of the trip.

The train being for the exclusive use of the party, the guests while in Denver and Salt Lake City will have full use of the sleepers as well as occupying quarters at the hotel, the cars being open all day for their use.

Parties desiring to accompany this Excursion should register promptly and make a guarantee deposit of $20.00 with Jas. F. Aglar, General Agent, Union Pacific System, 213 N. 4th Street, St. Louis, not later than May 20th, as the number of tickets to be sold will be limited to 150.

Parties who desire to leave prior to, or after special excursion train leaves, can purchase round trip tickets, via Union Pacific Railway, at the following rates:

Fare $77.50, Round Trip, St. Louis and Memphis to San Francisco and return, $65.50 from Kansas City. First-Class Pullman Sleepers guaranteed on outward-bound trip at $14.50 from St. Louis, $16.00 from Memphis, or $13.00 from Kansas City or Omaha (continuous passage) each for Double Berth, with corresponding special low rates from all Eastern and Southern cities. In order to positively secure the same, the money must be deposited for Sleeping Berth ten days prior to starting. Same rules and rates for return trip as per Special Excursion.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXIX. ST. LOUIS, MAY 12, 1894. NO. 19.

ORIGINAL ARTICLES

Rest in Gunshot Wounds of the Chest.

IMPORTANCE OF A QUICK APPLICATION OF THE PLASTER JACKET IN CASES WHERE THE PLEURA HAS BEEN PENETRATED—THE LABOR INVOLVED IN BREATHING SHOULD AT ONCE BE TRANSFERRED TO THE DIAPHRAGM—METHOD OF DRESSING AND HISTORIES OF TWENTY CASES TREATED AT THE ST. LOUIS CITY HOSPITAL.

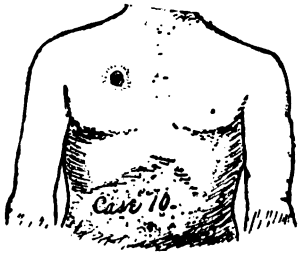
BY HEINE MARKS, M.D., ST. LOUIS,

Superintendent and Surgeon in Charge of the St. Louis City Hospital; Member of the American Medical Association; Member of the Missouri State Medical Association; Vice-President of the St. Louis Medical Society; and ex-Member of the Board of Managers of the House of Refuge.

[Notes of cases Collated by H. S. CROSSEN, M.D., First Assistant Physician].

[CONCLUDED].

CASE X.—Henry T——, age 26 years; occupation, boiler-maker.

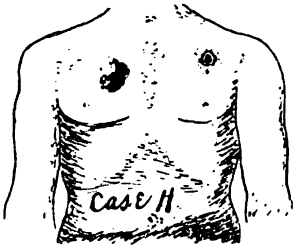


Patient was admitted to the hospital July 24, 1893, at 12:25 A.M., having been brought from the scene of a shooting affair.

Examination revealed a bullet wound in the third right intercostal space, three inches from the sternum. No exit of bullet was found. Patient did not expectorate any blood.

Treatment—Antisepsis and plaster jacket.

Discharged, recovered, July 30, 1893, the seventh day after the injury. Caliber, 38.



CASE XI.—Chas. D——, age 23 years; occupation, laborer.

Patient was admitted to the hospital Nov. 5, 1893, at 4:30 P.M, suffering from two gunshot wounds—one of the right arm and the other of the left side of the chest. The wounds had been received three days previous to entering hospital. Had been treated by the usual antiseptic dressing. The second day after the injury he began to have severe dyspnœa when in a recumbent position. When admitted to the hospital had severe pain and dyspnœa, especially when attempting to lie down. He could neither lie down nor sleep.

The bullet wound of chest was situated in the second left intercostal space, about in the mammillary line. No wound of exit was found. There was dullness, with diminished respiratory murmur, over the posterior inferior portion of the *right* side of the chest—indicating fluid in the pleural cavity. The exact location of the bullet could not be determined, but its course was evidently diagonal, passing from the wound of entrance through a portion of the left side of the chest, and then entering the right side.

The wounds were dressed antiseptically and a plaster-of-paris jacket was applied. The patient passed a fairly comfortable night *in a recumbent position.*

The case progressed favorably. The sixth day after the plaster was applied it was removed and wounds examined. No evidence of suppuration. Plaster jacket reapplied. Highest temperature recorded was 100.6°; pulse ranged from 70 to 100; respiration from 22 to 32.

Patient was discharged Nov. 15, 1893, ten days after entering hospital. Wound was almost healed. He returned for dressing, and the wound healed in about one week. Caliber, 38.

CASE XII.—A. F. E——, age 31 years; occupation, laborer.

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Patient was shot in the chest the night of Dec. 21, 1893. He was taken immediately to the city dispensary and from there sent to the city hospital, where he arrived at 1:40 A.M., Dec. 22, 1893. Patient was extremely weak. He was very pale, almost pulseless and quite drowsy.

Examination revealed three bullet wounds—one, a superficial wound of the scalp; the second, a wound of the left shoulder; and the third, in the left side of the chest. The last was situated in the fourth left intercostal space, one and a half inches external to the nipple. The ball had ranged backward and inward, and lodged beneath the skin posteriorly, midway between the spine and the inferior angle of the left scapula. There was hæmatoma about the bullet, and subcutaneous emphysema about the entrance wound. Patient expectorated blood. He was too weak to stand much manipulation.

An antiseptic dressing was put on, and patient placed in bed and external warmth applied. The next morning he was considerably improved. The chest was then encased in a plaster-of-paris jacket.

Patient continued very weak, though apparently comfortable. Three days later the plaster was removed. The swelling in back had much diminished. The ball was removed through a small incision. The wounds were dressed and another plaster jacket was applied.

Patient improved slowly. Was fairly comfortable and gained in strength, but temperature persisted at 101°, occasionally going higher or lower; pulse varied from 100 to 120, and respiration 20 to 38.

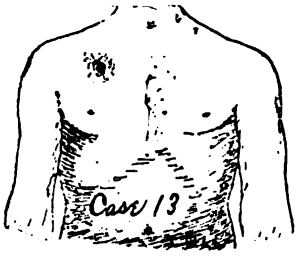
The eighth day the plaster was removed. An examination of the chest elicited signs of consolidation of the lower lobe of the left lung with some fluid in the pleural cavity. Plaster jacket was reapplied. Patient gained in strength, but temperature persisted as before and pulse respirations increased in frequency, for a time. A small abscess on the right arm will perhaps account for part of the fever.

Patient was discharged, recovered, Jan. 22, 1894, having been in the hospital 31 days. Caliber, 38.

CASE XIII.—James L——, age 32 years; occupation, barkeeper.

Patient was shot in the chest early Dec. 26, 1893. He was taken immediately to the city dispensary and from there sent to the hospital, where he arrived at 5:10 A.M. He was suffering somewhat from shock, but not to a great extent.

Examination revealed a bullet wound in the second right intercostal space, just without the mammillary line. No wound of exit was found. The ball seemed to have ranged backward and downward, as there were signs of consolidation (hemorrhage into the lung) near the inferior angle of the scapula of the same side. He expectorated blood quite freely.

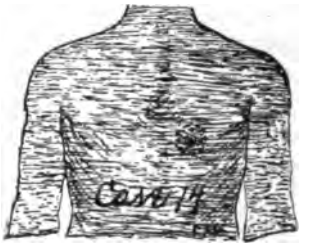


The wound was cleansed and dressed antiseptically and a plaster-of-paris jacket immediately applied.

The case progressed exceedingly well.

The second day patient's temperature reached 101°, and then gradually subsided. Pulse gradually diminished in frequency. The eighth day the plaster was removed and a tight crinoline bandage applied.

Patient discharged, recovered, Jan. 21, 1894, having been in the hospital twenty-six days. Caliber, 38.



CASE XIV.—Fred P—— (colored), age 25 years; occupation, laborer.

Patient was shot in the back Feb. 28, 1893. He was brought immediately to the hospital, where he arrived at 10:50 P.M.

Examination revealed a bullet wound just below the level of the inferior angle of right scapula, and two inches posterior to the axillary line. No wound of exit was found. Patient expectorated bloody sputum.

Wound was dressed antiseptically and a plaster-of-paris jacket applied.

Case apparently progressed favorably. Patient had no fever. Was discharged March 14, feeling well, having been in hospital fourteen days.

Soon after leaving the hospital he began to feel weak. Had a cough, with some fever, and general malaise. Returned to the hospital April 1, 1893, presenting symptoms of limited empyema of right eye.

A portion of the ninth rib was removed, and the pleural cavity drained. A considerable quantity of thick, creamy pus came out, and, with the pus, a piece of clothing.

Patient improved; became able to be up and about; felt comfortable and comparatively strong. Was discharged April 18, 1893. Wound not entirely healed. He returned for dressing, and wound closed in about one month. Caliber, 38.

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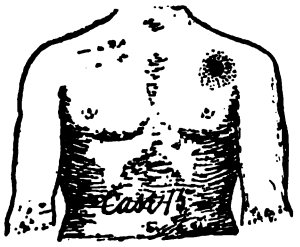
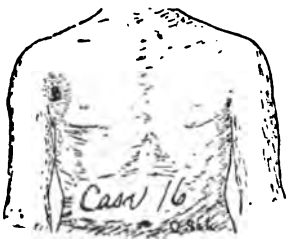
CASE XV.—Thos. F——, age 53 years; occupation, farmer.

Patient was shot in the chest Jan. 16, 1894, about 5 P.M. Brought to the hospital at 9:10 P.M. Was suffering from shock.



Examination revealed a large bullet wound two inches below the left clavicle, and about the junction of the outer with the middle third. The ball ranged backward, downward and inward, and lodged beneath the skin two inches to the left of the spinal column, and one inch above the level of the inferior angle of scapula. There was subcutaneous emphysema about the bullet. Patient had not yet noticed any bloody expectoration. The ball was removed posteriorly through a small incision, and with it some small pieces of clothing. The ball was of large size, and one end was flattened and rough, and there were some shreds of clothing firmly adherent to it.

Wounds were dressed antiseptically and the chest was encased in a plaster of-paris jacket. The next day the patient's sputum was bloody, and this continued for several days. The second day after the injury he was very weak, and respiration was difficult and painful. Temperature, 100°; respiration, 36; pulse, 86. The third day the temperature subsided, and he had no fever afterwards, and steadily improved. The seventh day some pieces of clothing were removed from the anterior portion of the tract of the bullet. Patient recovered. Caliber, 44.



CASE XVI.—Wm. K——, age 29 years; occupation, railroad employee.

Patient was shot in the right side of the chest Feb. 1, 1893. The bullet entered in the anterior axillary line near the third rib, passed through the lung, and lodged posteriorly in the soft tissues of the chest wall, midway between the spine and the inferior angle of the right scapula.

He expectorated some blood (small quantity). The wound was dressed four hours later by a physician, and he continued under a physician's care. He was troubled somewhat in respiration all the time after the injury, but there was no marked change in his condition until about February 16, when he began to have chills, with moderate evening fever, accompanied by weakness, loss of appetite and emaciation.

Was admitted to the city hospital a week later. He then presented symptoms of empyema of the right side, with only a moderate amount of fluid. The bullet wound was surrounded by a zone of inflammation, and a small quantity of pus was escaping from it. There was a small swelling posteriorly, where the ball was still situated.

The twenty-fifth day after the injury patient underwent an operation, the right pleural cavity being opened and drained.

Patient improved, became able to be up and about, and felt fairly well. But a sinus persisted at the site of the anterior operation wound for a long time.

Patient was discharged May 10, 1893, sinus not yet entirely healed. Returned occasionally for dressing, and sinus closed in about three weeks. Caliber, 38.

CASE XVII—Jno. W——, (colored) age 23 years; occupation, laborer.

Patient was shot in the chest about Aug. 21, 1893. The bullet entered the sternum, near the junction of the manubrium with the gladiolus. There was no wound of exit. He expectorated some blood that day and the next, but none afterwards. He went to a physician, who, he said, probed the wound and then gave him some ointment to apply to it and some medicine to take internally. He suffered considerably from dyspnœa, and respiratory movements caused pain all through the chest.

Was admitted to the city hospital Aug. 26, 1893, the sixth day after the injury. The bullet wound was healing. On the left side of the chest there was bulging of the intercostal space, with dullness on percussion up to the fourth rib, and absence of respiratory sounds over the same area. The upper limit of dullness changed with change of position of the patient. An aspirating needle was introduced posteriorly, and about 400 c.c. of thin blood removed. Six days later 300 c.c. more of bloody fluid was drawn off. Patient seemed to be improving, but the next day—that is, about two weeks after the receipt of the injury—he was prostrated with pneumonia. Temperature rose suddenly to 104.7°, and respiration to 48. Consolidation was made out in the inferior lobe of the lung of the affected side.

In six days he had apparently recovered from the

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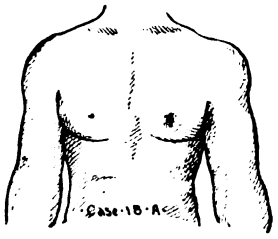
pneumonia. Temperature subsided to 100°, and respiration to 24. He was very weak, however, and continued to grow weaker. Temperature rose somewhat again, varying from 100° to 102°, once going to 102.5°. September 12 (about three weeks after the injury was received) it was thought best to drain the left pleural cavity. Patient was too weak to be anæstheticized and a re-section of a rib was made without a general anesthetic. A large amount of bloody fluid escaped. The general weakness and prostration continued to a marked degree. Temperature ranged from 100° to 102° for about two weeks longer, and from 100° to near 101° for three more weeks, and then gradually subsided. He improved very slowly, the discharge diminishing gradually.

He is now up and about and feels fairly comfortable, and is gaining in weight and strength. But a sinus is still present at the site of the operation. Caliber, 32.

Case XVIII.—Fred. Y——, age 26 years; occupation, butcher; social condition, single.

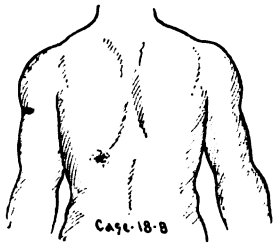
Patient entered hospital Monday, Feb. 19, 1894, at 2 P.M., one hour after the accident.

An examination revealed a gunshot wound of the chest (point of entrance) about ¼ inch below left nipple, passing through left lung and making its point of exit posteriorly about 2 inches below angle of scapula. Blood flowed freely from the wound. Physical signs indicated blood in the chest. Patient complained of a great deal of pain and dyspnœa. Spat up large quantities of blood. He became cyanosed and fainted upon the table. Strychnia $^1/_{30}$ gr. every half hour was administered. Within an hour and a half patient recovered from shock, and plaster jacket was applied.



February 20, patient somewhat improved.

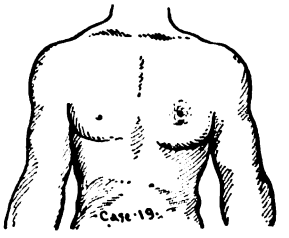
February 21, patient complained of a great deal of pain. About 1500 c.c. of blood was aspirated. Four days latter there was 100 c.c. blood removed.



February 26, patient developed traumatic pneumonia. Complained of a great deal of pain, and severe cough.

March 28, third and fourth ribs were re-sected for the purpose of drainage, patient having had empyema. Large quantities of pus escaped. The diaphragm was found to be adherent up to about the lower margin of the fifth rib.

He was discharged, improved, May 3, 1894, having been in the hospital 43 days. Caliber, 38.



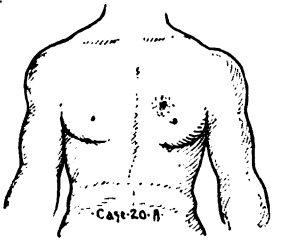
Case XIX.—Edward C——, age 40 years; occupation, veterinary surgeon; social condition, married.

March 20, 1894, Tuesday about 10 A.M., this patient shot himself for the purpose of suicide. He entered the hospital 11:55 A.M., suffering with a gunshot wound upon the left side, the bullet penetrating region of the left nipple. There was a hæmatoma on the posterior axillary line, about the ninth intercostal space. The bullet could be felt superficially. The chest contained blood. Patient spat up large quantities of blood. Complained of a great deal of pain. A hypodermic of strychnia was administered, and plaster jacket applied.

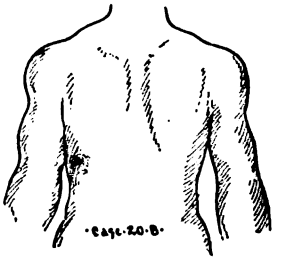
Patient entirely recovered, May 4, 1894. Caliber. 38.

Case XX.—Louis W——, age 34 years; occupation, artist; social condition, married.

Patient shot himself with suicidal intent March 16, 1894, Tuesday, about 9 A.M;. he entered the hospital 10:45 A.M.



An examination revealed that the bullet entered about 1½ inches above and 1 inch to the right of the left nipple, making its exit at the posterior axillary line opposite angle of scapula. Chest contained some blood.



Chest rendered aseptic in the usual manner; plaster jacket applied.

Patient remained in the hospital 21 days; discharged, improved, April 6, 1894. Caliber, 38.

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Closure of the Ear by Growths of Bone; Purulent Inflammation of the Middle Ear; Pain, Deafness, Etc.; A Fourth Case of the Writer's Successfully Treated by Osteotomy; With Cure; Description of Operation, Instruments, Etc.

BY ROBERT BARCLAY, A.M., M.D., ST. LOUIS,

Member of the American Otological Society; Formerly, Assistant Aural Surgeon: New York Eye and Ear Infirmary, New York; Aural Surgeon: St. Louis City Hospital, Missouri Pacific Railway Hospital, St. Louis Baptist Hospital, St. Mary's Infirmary, South Side Dispensary, Missouri Baptist Sanitarium, Mariae Consilia Deaf and Dumb Institute, House of the Good Shepherd, Etc.

The subject of "Closure of the Ear by Growths of Bone" is one of singular interest and considerable practical importance, chiefly for the following reasons:

The morbid condition of which it treats, may, at any time, be most unexpectedly encountered—as it has been by the writer, already five times.

Temporizing with it may lead to loss not only of hearing, but even of life itself,—as in the significant case reported by Dr. J. Orne Green, of Boston, Mass.,[1] while unskillful meddling may convert it into a condition of great and imminent danger,—as in the case detailed below.

Obviously, therefore, prompt, active and appropriate interference are obligatory upon the physician who assumes charge here, which implies, as essential prerequisite to the discharge of duty, an exact acquaintance with the surgical anatomy of the external auditory canal and drum-head, skill in the technique of aural osteotomy, the possession of an effective instrumentarium, and a wholesome regard for opportunity and despatch.

Commensurate with its importance, a more extensive familiarity with this subject, therefore, among general practitioners seems called-for, since to *the family physician first* these patients usually appeal for relief; hence, he should acquaint himself with that portion of the subject particularly which treats of the rational modern method of dealing radically with these bony growths. For—and the prevalent disregard of the following truth, to their own disadvantage, by general practitioners, justifies a fraternal repetition of it to them—even if the family doctor should happen to prefer to avail himself of the services of an aural surgeon, he owes it *to himself* as well as to his patient to see to it that the specialist whom he has ventured to recommend does not *discredit him* by betraying the patient's reasonable expectations and financial interests, endangering health and life, through neglect of what is to-day universally recognized by experts as the only course of treatment admissible in such cases. For that there are aural surgeons, professedly expert, who, notwithstanding, have been found to hesitate indefinitely *here*, temporizing, instead, with procedures that can do no possible good and may do serious harm, is a lamentable fact, however, generally unsuspected. And that this statement may not, as without sufficient foundation, offend an adversely prejudiced reader, it may be stated further that the writer knows of such a case where, to day, the patient, in his ignorance, is still patiently waiting for the aural surgeon to do his duty—or withdraw; and the family physician, unaware!

Another, from the writer's aural records, is quite characteristic of this morbid condition and of its usual course; and its history is replete with incomparable lessons obvious to him that can "read between the lines":

A man, (104273), thirty-six years of age, of large and powerful physique, of healthy German parentage, and, excepting for his ear-disease, always perfectly healthy, consulted me early in the Spring.

A member of our Metropolitan Police Force, he was frequently called by duty into situations where certain hearing was indispensable for the protection of the rights, property and lives of others and himself. Recently, however, his hearing had become so far impaired and deranged, and his right ear the seat of such great discomfort, that the pursuit of his vocation had grown difficult and personally hazardous.

For eighteen years, he had experienced discomfort from the the right ear. To him, it had always seemed to secrete a super-abundance of cerumen; and the ear had been so "itchy," particularly in the spring, that he could not resist the impulse to "pick at" it habitually, more frequently during the past four or five years.

About six weeks before our consultation, while "picking" the right ear, he had discovered, for the first time, the presence of some obstacle therein, which his wife could see deep within the ear. Without delay, he consulted a courteous specialist of this city, to whom he had been directed, who confirmed his suspicions as to the neoplastic and osseous nature of the aural obstacle. Aside from his statement as to the prognosis offered, which need not be repeated here, he stated as follows: that he forthwith placed himself under "treatment" (!) which consisted of Politzer-tympanic-inflation, nasal-spraying, and aural-inunction; that, after four weeks of this "treatment"—which, at times, was somewhat painful—a purulent discharge began from the ear, pus sometimes escaping from the right nostril as well; the development of the otorrhea being attended with earache on sneezing or coughing, a perforation-whistle, tinnitus, autophony, and marked deafness which, after the discharge became established, was almost total at times. In the first week of the otorrhea, a dentist extracted for him a carious right superior bicuspid tooth which had a long root, the extraction being followed by right nose-bleed which, for awhile, alternated with the discharge of pus from the right nostril; and the right side of his mouth was quite tender for awhile after the removal of the tooth. While undergoing the aural "treatment," his ear had grown more and more annoying and useless, the acute purulent middle-ear complication and its at-

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tendant misery quite discouraging him; when he came under the writer's care.

At the first visit, his right ear having been carefully cleansed from pus, etc., examination revealed the presence of an obstacle seemingly about midway of the external auditory canal. Beneath this was a portion of the lumen of the canal, cresentic on transverse section, overlying the lower third of the circumference of the canal (Fig. I.). At its lowest, the widest part, it measured about one-tenth of an inch across. Bending the bulb of an ordinary silver-probe to a right angle with the long axis of the shaft, and holding it horizontally,

Fig. 1.

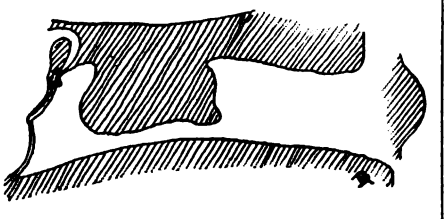

Fig. 2.

it could be passed beneath and beyond the obstacle, where the bulb could be turned upward (Fig. II.). By noting the amount of movement possible to the bulb here, as well as measuring the distance of the obstacle from the outlet of the canal, it was readily calculated that the exostosis—for such it proved to be—was one eighth of an inch from the drum-head, three-quarters of an inch from the tip of the tragus, and itself one inch thick, measured in the long axis of the canal. It was covered with whitish, slightly movable tissue; and was itself immovable. The lower crescentic third of the lumen of the canal being the only free passage, the tumor seemed to have grown from a very broad base comprising, laterally, the roof and part of the sides—about two-thirds of the canal periphery, and, longitudinally, (*i. e.*, in the long axis of the canal), almost one inch, of surface—which would leave quite a large area of denuded bone to be covered by cicatrization, if, indeed, the tumor could first be entirely removed by osteotomy!

Beneath the bony tumor, pus was soon oozing from the cul-de-sac of the canal.

The nasal septum was much deflected to the right; and, on the right side of the mouth, there was a carious inferior third molar tooth.

Obviously, the diagnosis was exostosis of the external auditory canal, with acute purulent otitis media, aggravated by irritation reflected from diseased structures at the extremity of other branches of the Trigeminus nerve.

The initial effort to subdue the tympanic abscess was so fortunately successful that the otorrhea disappeared before the fourth day of treatment, and the perforation of the drum-head healed over at once thereafter.

While awaiting, for several days, a three days' leave of absence, for which, under instruction of the writer, he had applied, he was kept upon a moderate diet.

I take this opportunity to make public acknowledgement of my indebtedness to Drs. P. F. Vasterling, R. C. Taylor, and A. Aloe, of St. Louis, for their invaluable and indispensable assistance in the difficult operation that was performed upon this patient.

Before the operation, there had been prepared, for instant use, as required, a large number of swabs or dossils of absorbent cotton-wool twisted upon the extremity of long, slender wooden toothpicks.

On looking over the aural specula of different patterns already devised and in the market, for one exactly suited to an operation such as the one contemplated, it was found that none would answer. They were objectionable in that they were too long; some of them too narrow at the inner extremity, thus preventing a maximum of vision and of illumination; did not allow approximation of the operating hand to neck or jaw sufficiently near to secure a satisfactory finger-rest or hand rest; necessitated long operative shafts on instruments; contracted the field of lateral and of circular movement of instruments; and could not with facility be immovably and satisfactorily held in place by an assistant. In obviation of these, a speculum, specially devised by the writer, was constructed for the operation by the A. S. Aloe Company, of St. Louis, who manufacture the instrument for sale. A description and drawing of this operating speculum, in its various forms, as developed, the writer begs to quote from their illustrated catalogue recently published:

"By dispensing with that portion of an aural speculum that projects beyond the intertragal notch of the ear, this instrument allows a hand-rest for steadiness and a maximum of shortening and of movement of instruments in operation within the ear. It consists of two parts—a tube and a handle. The tube resembles the inner portion of an ordinary aural speculum divided obliquely at two-fifths its distance from the outer rim (see Fig. 5238 B, *b*) and fits the slot of the handle, its longer or shorter side being below as required to bring its rim flush with that of the intertragal notch. For general use tubes of different sizes are required, and, for rare cases, one cut transversely. (See Fig. 5238 B, *a*.).

"The handle is made of one of three patterns: Like a spoon-handle, fixed to the tube, dipper-shaped (5237);[2] like an imperfect ring (5238 A);[3] or like a split tailor's-thimble (5239). When the patient is erect it is retained by a thumb (see Fig. 5238 C.); when supine, by a finger (see Fig. 5238 D.), to either of which it can readily be adjusted, the rest of the hand being free to steady the patient's head, or to hold cotton, instruments, etc. In order that it may be used by either hand, or upon either side the ear, the thimble-speculum has two slots for the tube. Whenever it is desirable to have both hands entirely free for other service, the speculum may be held in place by an assistant."

The delicacy, danger, and difficulty of removing the bone tumor in this case was greatly reduced not only by the use of this speculum, but by employing the dental engine, one with an extra-heavy sleeve, cable and handpiece, designed for minor surgery, manufactured by the

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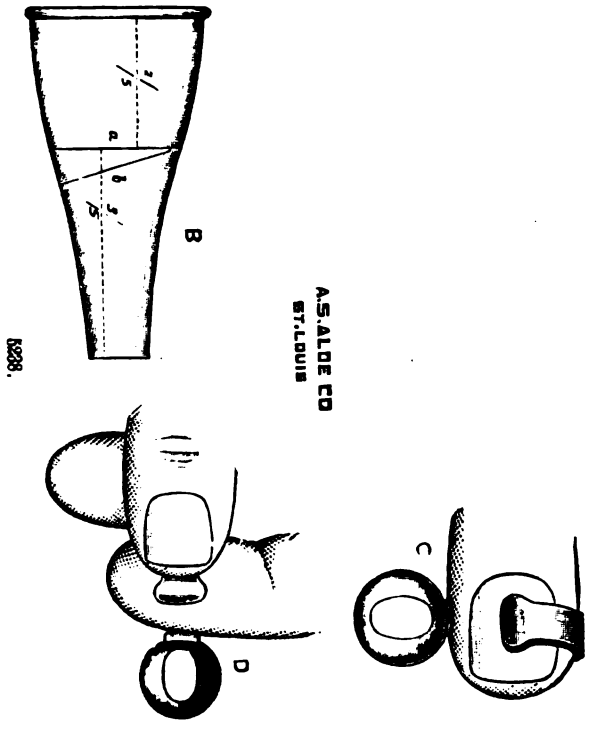
S. S. White Dental Manufacturing Company, of Philadelphia and New York.[4]



There were three dissimilar boring-tools of hard-tempered steel, used in the hand-piece, and frequently interchanged, in the operation: One, projecting two inches beyond the extremity of the hand-piece, when adjusted therein, has, at the end, a working surface one inch long which, deeply, sharply, and regularly fluted, tapers to a square-pyramidal point, one thirty-second of an inch in diagonal. The diameter of the thickest portion of the working surface and shaft is four-thirty-seconds of an inch. The second was a shaft, carrying a round bur six thirty-seconds of an inch in diameter. The third, with an elliptical bur, whose long diameter, continuous with the long axis of the tool, was twelve thirty-seconds of an inch; its transverse, or short diameter, eight-thirty-seconds of an inch; and its flutes were cut deeply, sharply, and spirally, at an angle with the meridian of the bur, so to speak.

5239.

5237.

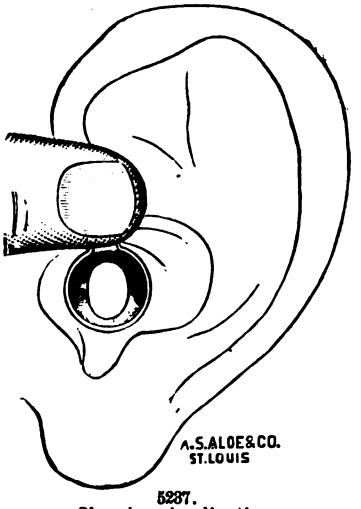
A few moments before the operation, the ear was thoroughly syringed with an aqueous solution of corrosive sublimate (1:1000), and then stopped with a wad of absorbent-cotton-wool.

As lamp-light was to be used for illuminating the operative field, chloroform, being non-explosive, was selected as the anesthetic.

After this had been administered to the surgical degree, the patient lying supine,[5] the cotton-wool wad in the meatus was replaced by the ring-speculum, which was held in place (Fig. 5238 D) by one of the physicians assisting.

The boring was begun with the tapering reamer, which, was frequently interchanged with the round bur later; the elliptical bur being used, although but little, toward the end of the operation. From the instant boring was begun, hemorrhage was profuse and persistent until the drill was removed from the ear, and pressure with the cotton-wool dossils and syringing with hot water employed determinedly. So that the operation was, practically, done beneath the surface of the stream of blood, mainly by the sense of touch.

Not without denudation of the whole circumference of the wall of the deep osseous canal at the isthmus, however, yet without injury to the drum-head, the *entire* bony growth was removed.



5237.
Showing Application.

Pressure, hot douching, and instillation of hydrogen peroxide, finally checked the hemorrhage; after which, with a light sprinkling with powdered iodoform, the canal was simply tented with iodoform-absorbent-gauze, a dry antiseptic dressing with bandage applied, and the patient put to bed.

Shortly after the immediate effects of the chloroform had passed off, he complained of earache, which was effectually and permanently relieved by a small hypodermatic injection of morphine sulphate. Before dropping off to sleep that night, he was given a glass of milk-punch.

After removal of the dressings, on the day after the operation, the parts were found dry; the drum-head was intact; and with this ear, he could hear the forty-eight inch watch at six inches' distance, and lowest voice and whisper at about twelve feet distance, the limit of the room.

After-treatment consisted in the local application of

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a tampon of absorbent gauze; of insufflation of powdered salicylic and boracic acids; of painting with nitrate of silver; of dusting with powdered gallic acid; with occasional syringing for cleanliness. A dilating or distending rubber-tube tent could not be tolerated, and was abandoned after one trial. No discharge soaked the dressings after the third week; and all tampons were discarded after the sixth week following the operation. On the first day of the seventh week, the ear was perfectly dry; almost the entire drum-head was visible; the hearing of this ear for the watch was still improving rapidly, and with it he could hear low voice and whisper at forty-five feet distance.

At no time following the operation, had there been any disturbance of pulse or of temperature. He had been delivered from the dangers and discomforts attendant on his purulent otitis media. His bone tumor was gone. He had recovered hearing to a degree, he stated, seemingly much better than it had ever been before. And, *for this, he had been off duty but the three days* of his leave of absence.

This method of dealing with these bony aural growths has proved effectual in the hands of Drs. Matthewson, of Brooklyn, Field and Dalby, of England, and others. Besides the report above, the writer has already published a detailed history of three other cases, successfully operated upon by him, together with description and drawings of instruments, operations, etc.[6] These cases are characterized as follows:

"Case I.—Bony growth almost closing ear; purulent inflammation of middle ear; deafness, gradually increasing; removal of bony obstruction; cure of otorrhea and of deafness.[7]

"Case II.—Bony growth almost closing ear; purulent inflammation of middle ear; deafness, gradually increasing; removal of bony obstruction; cure of otorrhea and of deafness.

"Case III.—Bony growth completely closing ear; purulent inflammation of the middle ear; deafness, almost total; artificial auditory canal bored through five-eighths of an inch of bone; cure of otorrhea and of deafness."

In conclusion, it is hoped that this report may suggest to surgeons generally a wider employment of the dental surgical engine in osteotomy; for, as set forth in the report last referred to, "in operating with this instrument, the hand-piece may be held and guided like a pen, skill and attention being addressed principally to directing the reamer, or bur, inasmuch as this operates, with but slight manual pressure, mainly by the rapid revolution of its cutting edges. A little experience in the use of the dental engine and drill is sufficient to educate the operator in determining by touch and resistance the nature or condition of the tissue upon which the tool is operating, thereby affording another and more reliable indication as to the desirability of extending or terminating the process of operation at that particular spot. With this there is a minimum of risk of injury to contiguous or neighboring healthy parts through direct or through transmitted force. In careful hands this instrument cannot slip away or plunge. No concussion, no cracking, no roughness, no projecting spiculæ, no splinters of bone—only a smooth, clean-cut surface marks its trail."

3211 Lucas Avenue.

[1]Boston Medical and Surgical Journal, Boston, Mass., April 18, 1878.

[2]In the Medical News, Philadelphia, April 22, 1893, was published a report of cases of closure of the ear by growths of bone, successfully operated upon, two of them through this di,per-shaped speculum. In one of these two, an artificial auditory canal was bored through a complete bony septum five-eighths of an inch thick.

[3]This was the style of handle used in the operation about to be described.

[4]From the articles of Major M. H. Cryer, M.D., D.D.S., of Philadelphia, in the Dental Cosmos of September, 1893, and the Journal of the American Medical Association of February 24, 1894, I learn that this Company has since placed in the market an imp oved surgical engine and adjustable tools, which seem to be vastly superior to those used in my operations.

[5]This is mentioned to direct attention to the fact that the operation was rendered more difficult and dangerous from the position of the patient's skull: necessarily upon its hindermost portion, when all parts of the ear were displaced, having revolved, about the line of vision, ninety degrees, or the fourth part of a circle, from the normal position.

[6]Medical News, Philadelphia, April 22, 1893, pp. 423-429.

[7]See, also, St. Louis Courier of Medicine, January, 1890.

Uric Acid and Bright's Disease.

BY J. R. LEMEN, M.D.

Read before the St. Louis Medical Society, April 21, 1894.

In the January number of the *American Journal of the Medical Sciences* Dr. DaCosta says, the more we study Bright's disease and albuminuria, the more we will be struck with the variations from the ordinary types, and that one of these groups that has attracted his attention for years and is inadequately known, is the one originating in excessive uric acid formation.

It is my intention to give Dr. DaCosta's paper and observation the priority to which they are entitled. I have, however, during the last five years, been studying the effect of the accumulation of uric acid in the system and its elimination by the kidneys. My observations have been, in the main, confirmatory of the conditions and results detailed in Dr. DaCosta's paper. In studying the effects of the elimination of uric acid from the blood by the kidneys, and their attempts to relieve themselves of the injurious effect of this irritant, it will be necessary to understand the cause which leads to the formation of uric acid.

The tissues, in doing an amount of work, produce chemical substances which, if retained in the blood, are poisonous; so that to be in perfect working order, it becomes necessary that these poisons be eliminated from the body. One of the functions of the blood is to take up these waste products from the tissues and carry them to the various organs that excrete them. In doing this work the tissues must first incorporate oxygen and nutriment with its cells, and the activity of the changes

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in the tissues will depend upon the supply of oxygen and the kind of pabulum; or, to state the thought again, the tissue and material supplied act and react upon each other. Now, for the uric acid, which is eliminated from the blood by the kidneys, and which causes an irritation of so serious a nature as to manifest a disturbance by an appreciable amount of albumin in the urine, we must look at the supply of both oxygen and pabulum, and the condition of the supply when it is finished, to be more specific, the digestive disturbances which invariably ante-date the formation of uric acid in excess. We have, from various causes, an interference with the digestive functions and, as a result of these disturbances, there is failure to properly assimilate the improperly digested and often fermenting chyme that is supplied to the liver and absorbents, resulting in defective metabolism and, as a result, the formation of uric acid in excess. Every form of Bright's disease is probably traceable to some irritant taken to the kidney by the blood; let that poison reach the blood in what way it may. Either to external poisons introduced through the blood, such as alcohol and lead, which are again eliminated by the kidneys as such, and do not become an integral part of the living tissues as do albumin, salts, etc. supplied from the plasma; or the poison may be manufactured in the body and carried to the kidneys for elimination.

In order to make myself understood as to conditions resulting from disturbances such as I have mentioned, I will report a number of cases that have been observed by me during the last five years.

E. B., male, 45 years of age, came under my care in 1889. He had large business interests which confined and worried him very much. His appetite was variable, a very rapid eater, never allowed himself more than one-half hour for a meal; masticated badly and washed down food with large quantities of water or coffee; bowels constipated, tongue furred, patient nervous and anxious about himself and very despondent at times; bladder very irritable, urine high colored and intensely acid; quantity xxxv ℥; specific gravity ranging from 1033 to 1026 and slight trace of albumin present, also hyaline casts; uric acid deposited in large quantities. Patient was directed to take more exercise, carefully diet himself, abstain from fluids at meal time, but to drink plenty of water two hours after eating; masticate food well, and take ten drops of dilute nitric acid three times daily, two hours after eating. The general condition improved; he became less nervous, gained in weight, urine increased in quantity and uric acid disappeared. In six months no trace of albumin was present. I believe this gentleman was suffering from defective metabolism and uric acid formation as a consequence, this causing an irritability of the bladder and kidneys.

Case II.—J. L., male, age 36 years; a professional gentleman, inclined to live well, ate heartily of meats and pastry, very rapid eater and imperfect masticater, and in the habit of washing down food with large quantities of milk or coffee. The patient was of a sluggish disposition, where metabolism is slow and adipose tissue is deposited instead of muscle being made. Urine was of acid reaction; specific gravity 1024, normal in quantity. Slight amount of albumin found by picric acid test; uric acid deposited in the urine. Treatment consisted in placing patient on special diet with active and also passive exercise in the form of massage. Fluids were prohibited at meals. Albumin disappeared from the urine; patient gained in strength and improved in appearance, but would not continue treatment, and albumin again appeared and is present at this time.

Case III.—J. T. M., age 40, male. Patient of nervous temperament; in the habit of eating hurriedly of rich food, often taking heavy meals after exciting work. Losing in weight, tongue furred, bowels constipated and breath offensive; urine xl ℥ in twenty-four hours, specific gravity 1050, acid reaction; uric acid present; slight trace of albumin found with the picric acid test. Lavage of the stomach was practiced in this case, and large quantities of partially digested food was washed from the stomach five or six hours after eating. Diet was regulated and directions given as to how to eat; exercise prescribed and dilute nitric acid given internally. Following this treatment for three months the patient gained twenty-five pounds, and is now in perfect health with no albumin in the urine.

In reporting the above cases, I believe that this number will be sufficient to illustrate the point that I am desirous of making in this paper, *i. e.*, that there is a condition preceding the development of Bright's disease, which advances insidiously, but manifests its presence by nervous symptoms that are often misinterpreted as neurasthenia by the disturbance of digestive functions and by the presence of slight traces of albumin in the urine. By understanding the causes of early symptoms great benefit may be afforded the patient. In other words, the supposition of Cohnheim, that all forms of this disease are secondary to disturbances that always precede the graver pathological changes, is the position that I take after five years' clinical study of this subject. That the poisons which circulate in the blood are removed by the kidneys, and if the poison is of an irritating character like uric acid, the tubules are damaged as a result. The elimination of uric acid produces congestion of the kidneys, which in itself is not a serious condition, and will pass away if the cause be removed, otherwise in time vascular changes will result, and what was a simple condition easily removed by judicious treatment and diet, will be the primary stage of cirrhotic kidney. So, in concluding, I would advise in all cases where metabolism is interfered with, where the stomach digestion is poor, where a patient is over-worried, where the physical needs are neglected, or where there is over indulgence in food and drink, that the urine should be thoroughly investigated, the quantity correctly ascertained by measurement, and when it is found that the kidneys are being over worked call a halt, and I believe it will be found possible, in many

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cases, to prevent the development of chronic Bright's disease of the kidneys.

Cesarean Section for Hydrocephalic Child and a Ruptured Uterus.

BY WALTER B. DORSETT, M D.

Read before the St. Louis Obstetrical and Gynecological Society.

This specimen is from a case that was very interesting to me. On August 18, I was requested by Dr. Marks to come to the City Hospital and assist him in a case of labor. I went as soon as possible and found a patient who had been in labor for over two days, and I have here the clinical history which I will read:

FIG. I.—UTERUS SHOWING POINT OF RUPTURE AT JUNCTURE OF BODY WITH NECK.

H. B., aged 22, native of Missouri. Family history: Mother had died in childbed; father is living; sisters and brothers living and healthy. No history of consumption, rheumatism, insanity, epilepsy. Previous history: Patient had always enjoyed good health; menstruated for the first time at the age of twelve. Menstruation has been regular; she had a miscarriage last summer. Had her last menstruation November 12, 1892. Noticed quickening about four months ago. She was admitted to the hospital August 16, 1893. Had all the signs of pregnancy, such as morning sickness, morbid longings, neutral and emotional phenomena. Present trouble. The patient was admitted to the hospital Wednesday evening, August 16, 1893, at about 8 o'clock. An examination was made immediately and it was revealed that she was in the first stage of labor. The os uteri was dilated about as large as the size of a quarter dollar, with the membranes intact. The fetal heart sound could be heard very distinctly on right side of abdomen, a little above the umbilicus. The rate of fetal heart beat was 118 per minute. The uterine souffle was best heard on the left side of the abdomen, especially in the left lumbar region. It was impossible to make out the position of the child by palpation of the abdomen. A l-rge resisting mass could be felt right above the symphysis pubes. This seemed rather too large for the child's head. The consistency of os uteri and vagina were normal, also the discharges. The woman had slight cutting pains during the day. They gradually increased in intensity and duration and were of a bearing down character at about 12 o'clock that night. But there was but little progress in the dilatation of the os uteri. The woman suffered a great deal. Chloral hydrate was administered in order to alleviate pain. This had but a slight influence upon her condition. Hypodermics of morphine was then given, with a better result. Her condition changed but little during the next day and following night.

The history was reviewed to me when I saw the case, I found that the woman was quite weak, and the os was not dilating very rapidly. I proposed to the doctor that the membranes be ruptured; this was about 12 o'clock, the membranes were ruptured, and we went away for a half or three quarters of an hour, when we came back we found the os was dilated so the finger could be introduced into the cervix. The position could not be made out. We knew it was a vertex presentation, because we could feel the edge of the parietal bones, but they were so widely separated one from the other that we could not tell whether it was an anterior or posterior occiput. However, it was decided to apply the forceps, and a pair of Hodge's forceps were used and applied high up, but every time any traction was made the head would slip out of the grasp of the forceps. I then introduced my hand and it felt to me like a dead child's head; just like a child's head that was macerated and the bones were movable one over the other. This we thought was an indication of a dead child, but upon listening we could hear the fetal heart. The introduc- of the hand not further than the wrist produced violent contractions and they were of such a character that the woman suffered a great deal and we had to give her a few whiffs of chloroform during these violent pains. Immediately after one of these pains and when the hand was not in the vagina or uterus, we noticed that the general contour of the abdomen had changed and instead of being very prominent, it was elongated, and her pulse was very weak. I told the doctor that if I had not heard the fetal heart I would be in favor of doing a craniotomy at once, but inasmuch as we had heard the fetal heart distinctly that there was only one other thing to do and that was to make a Cesarean section, as I believed that the uterus had ruptured. (This view I will say, however, was entertained by Dr. Marks some

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time before). We came to this conclusion from the peculiar shape of the abdomen; it having changed so suddenly. She was carried to the operating room and we made a Cesarean section, Dr. Marks using the knife and I assisting him. Upon cuiting down into the abdominal cavity we found it filled with bloody water; it was simply amniotic fluid and blood. We found that it was a vertex presentation; that the child had an enormous head, measuring eighteen and three fourths inches around the head just above the eye brows, and seventeen and one-fourth inches from the meatus auditorius across the top of the head to its fellow on the op posite side. I have here a photograph of the child.

FIG. II

I have the uterus showing point of rupture (Fig. I.). The woman died on the fourth or fifth day afterwards from exhaustion; she had no fever to amount to anything, but seemed to succumb to exhaustion from the long continued labor.

The points of interest in this report that I wish to draw the attention of the Society to are the following:

1. The failure of the os to dilate and the thickness of the membranes. Were these two conditions due in any way to the hydrocephalic child?

2. The mobility of the fetal cranial bones resembling the condition similar to changes due to decomposition of a dead fetus.

3. The change which suddenly took place in the shape of the uterine tumor, having become elongated as it were and reaching to the ensiform cartilage. This change in shape being due to rupture of the uterus near the juncture of the body and the neck or where the longitudinal fibers of the body are interwoven with the circular fibers of the neck. Was not this change of shape due to said rupture, and should it not in the future be regarded a valuable sign of rupture in these cases, and an indication for Cesarean section

EDITORIALS

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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The Presidency of the American Medical Association.

Ugly rumors are afloat that a certain coterie which for several years has acted as a wheel within a wheel, in directing the affairs of the association, has at this early date settled upon the individual who is to be the recipient of presidential honors at the San Francisco meeting of the American Medical Association. This, no doubt, will take a great responsibility from the shoulders of the large number of delegates from the different States. If the individual so elected is pre-eminently qualified for the place, but unsophisticated, the "lookers on in San Francisco" may not catch on.

The person who may be thus brought forward by his admirers to stand for the highest honor within the gift of the American medical profession must, however, be ready to have concentrated upon him the scrutinizing and discerning eye of the profession.

The association is passing through a period which demands that its rudder be guided by a man whose public and private character, professional attainments and standing in his profession at home should not admit of any controversy.

So much as a word of warning.

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Missouri State Medical Association.

The coming meeting of the Missouri State Medical Association at Lebanon, promises to be an interesting one. The various offices are in energetic hands, and no effort will be spared to make the meeting a success. It is needless to draw attention to the many advantages to be derived by attending scientific meetings of any kind, and particularly medical meetings. In medicine innumerable subjects present themselves for discussion continually, and in order to keep up with the advancing science, it is almost a necessity to attend such meetings. But besides the scientific benefits to be derived from them, the renewal of friendships and the opportunity of becoming personally acquainted with men working in the same direction and in a profession representing the highest ideals in life, should be an incentive for everybody to attend those meetings if possible. The indications are that the thirty seventh annual session of the Missouri State Medical Association will have a numerous attendance and be as successful as any meeting that was ever held by the association.

Special Sleeper to Lebanon for the Doctors.—The visit of St. Louis physicans to Lebanon will be made pleasant by the action of the Frisco Railroad in providing a special sleeper for the State Meeting. This car will be atached to the regular evening train, leaving the St. Louis Union Depot at 8:30, Monday evening, May 14. When the train reaches Lebanon at 3 A M., the special car will be switched off, leaving the occupants undisturbed until they are ready to get up in the morning.

This same sleeper will be attached to the train which leave Lebanon for St. Louis 11:50 P.M., May 17.

Weak Heart.

In a lecture delivered before the students of the University of Pennsylvania, Dr. J. M. DaCosta recognized the following varieties of weak heart:

1. That dependent upon degeneration of the cardiac muscle, especially the fatty heart.

2. That connected with dilation of the heart.

3. That resulting from the actions of certain poisons on the nervous mechanism of the heart.

4. That due to an intrinsically weak muscle, and unassociated with demonstrable lesions.

5. That resulting from nervous exhaustion. The symptoms characteristic of each of these conditions were clearly defined.

According to the notes taken of the lecture, for which we are indebted to the *University Medical Journal*, Dr. DaCosta stated that he had given considerable study in the last five or six years to a certain form of heart weakness dependent upon an intrinsically weak cardiac muscle, and in which nothing whatever can be found in the system to account for it. Such patients are often apparently strong and healthy, of good muscular development, without signs of indigestion, and yet have weak hearts, which are incapable of properly carrying on their functions. In these cases the pulse is slightly feeble, easily excited—now fast and now slow,—the extremities cold, and the skin may be cyanotic. On auscultation the first sound is feeble and confused. The area of dulness is not increased. This condition frequently persists throughout life, and no doubt is often the cause of a fatal termination in certain cases of acute disease in which all the conditions seem favorable to recovery. To support this view the speaker cited the case of a lady who had a slight attack of bronchitis. She was perfectly well when seen in the morning, and in the afternoon she died suddenly in collapse. There had been no evidence of organic disease of the heart, but she had been a sufferer from an intrinsically weak heart.

The question whether or not a feeble heart ever terminates in organic disease was answered in the affirmative, and the following case related as an illustration of such a result. A young lady, who had been for a long time under the speaker's care, and who had a typical feeble heart, after some years married. Gradually, without apparent cause, an apex-murmur developed, the heart began to dilate, and after two years of dilatation, with dropsy and pulmonary edema, the case terminated fatally.

In these cases no marked change is found in the cardiac muscle after death, although in a very few instances slight interstitial carditis may be discovered.

It was also pointed out that the disease was not invariably a grave or fatal malady, and that, when recognized and properly managed, was not incompatible with the average length of life.

Heart weakness from nervous exhaustion has been very imperfectly studied. It is generally observed in those who have undergone some worry, or who have been subjected to prolonged mental strain. There are all the signs of failing circulation,—cold hands and feet, a tendency to prostration, and some blueness of the surface, but there is no—and this was particularly emphasized—disturbance of the respiration. Dyspeptic symptoms are frequently present, and occasionally these cases merge into hysteria. The physical signs of the nervous heart are quite insignificant. The first sound is short, often valvular, and in marked contrast with the dull, confused first sound of the weak muscle heart. The pulse may be rapid or slow, but it is not so apt to be intermittent or irregular as it is in the muscularly weak heart. The sphygmographic tracing of the pulse in the nervous heart shows, as a rule, an upward stroke longer than would be expected, and somewhat oblique, while in the weak-muscle heart the up-stroke is more upright, and the diastolic tracing very irregular. The manner of development, the duration, the nervous element in the case, the absence of dyspnea, and the short first sound of the heart will generally indicate this condition. Other nervous phenomena may become associated with these cases of cardiac nervous exhaustion, and,

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as an instance of this, a case was cited in which the weak heart was followed by nervous diabetes.

As regards the prognosis of these functionally weak hearts, it was pointed out that, on the whole, the outlook was favorable, but that heart failure might occur at any time from undue strain.

Strychnine was suggested as a valuable remedy suited to both the nervous and the weak muscle heart, but especially to the former. Digitalis and similar remedies have proven of less service in the heart of nervous exhaustion than was to be expected, but were found invaluable in the weak-muscle heart. Arsenic was also mentioned as a useful remedy when given steadily in the heart of nervous exhaustion.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, April 21, 1894. F. W. WESSELER, M.D., in the chair.

DR. T. F. PREWITT presented four specimens and gave the history in connection with each case.

The first specimen was Two Ovaries, taken from a hystero-epileptic patient. The woman was 44 years of age, married, and was always in good health up to her last confinement, 18 years ago. Twelve years after this period there was cessation of menstruation for about three months, followed by what seemed to be a miscarriage. This was induced by a series of epileptiform convulsions occurring at night. Menstruation has always continued regular. Patient has been growing very nervous and has frequent epileptic spasms since, which have gradually grown distinct in character, being accompanied by frothing at the mouth, biting of the tongue and loss of conciousness. Although at first occurring only at the time of the menstrual period, they have continually increased in frequency and severity, and have recently occurred almost daily.

Digital examination proved very unsatisfactory, owing to the sensitiveness of the patient. Even under chloroform and the patient in Edivold's position, it was impossible to detect the ovaries. In operating they were found rolled under the extreme outer limit of the broad ligament and were very firmly adherent to the lateral walls of the pelvis. The left overy was normal, but the right had undergone cystic degeneration. Both were removed, as the trouble, in the doctor's opinion, was chiefly due to the adhesions; and then, the patient could do very well without them, considering her age.

The speaker recalled a similar case, upon which he had operated about one year ago, and which he had presented to this society at the time. The symptoms were almost indentical, but the diagnosis was questioned by the neurologists of the society. The result of the operation proved the correctness of it, as the patient has not had another convulsion up to this day and is in very good general health.

The second specimen was an Appendix Vermiformis, removed on the 16th, inst., for a recurring inflammation of this part. The primary attack occurred in August, 1893, and followed a rather free indulgence in grapes, of which the seeds were swallowed. The attack was accompanied by all the symptoms of an acute inflammatory process at this point, but it subsided in a few days under treatment of rest and saline laxatives. The stools contained a great number of the seeds. The second attack occurred on Thanksgiving day and, although the patient has been able to sit up at times, she has been mostly confined to her bed, the slightest exertion being followed by inflammatory symptoms. A third attack of acute inflammation occurred a month or two ago, accompanied by swelling, general abdominal tenderness and tympanites. The acute symptoms again subsided but tenderness remained constant over McBurney's point. The operation for the removal of the appendix was decided upon on account of the tendency to a recurrence of the trouble and because it was thought probable that several offending grape seeds were still lodged in the sac.

The operation was performed according to the method of Morris, but the appendix was found only with great difficulty and then only after the cecum had been brought into view. It was enclosed in a mass of connective tissue and was coiled under and firmly adherent to the cecum. Dissection was somewhat difficult; but after removal it was thought that there had been no perforation, and the abdominal wound was entirely closed. A small perforation was subsequently found, and in the appendix was lodged a small hardened mass of fecal matter but no seeds. Septic trouble was feared and it was thought best to remove the abdominal suture and substitute drainage, but a waiting policy was finally decided upon. She had no serious disturbance following the operation except a slightly accelerated pulse and a rise in temperature to 100°, which symptoms were due, however, to a little buttermilk allowed the patient. A saline laxative relieved the symptoms and she has remained perfectly comfortable ever since.

Of course, there might be a question of the propriety of operating in some cases, but considering the tendency to a recurrence in this case, the small perforation which acted as a constant focus exciting new attacks, and that the primary cause seemed to be a definite one, due to a mechanical irritant, the doctor believed the operation eminently justifiable, and the wisdom of the procedure was further emphasized by the result obtained.

The third specimen was a Tonsil affected by malignant disease, occurring in a patient 63 years of age. An exact diagnosis by the microscope had not been made, but the disease bore some of the characteristics of epithelioma. There was no involvement of the cer-

vical glands. The tonsil had enlarged to such an extent as almost to occlude the faucial opening rendering de glutition difficult and painful. The tonsil was removed by the Cheever operation.

The speaker recalled a case of malignant disease of the tonsil presented to the society about 6 years ago, in which he had made a diagnosis of epithelioma from an early involvement of the cervical glands. A subsequent microscopical examination proved the case to be one of sarcoma. Glandular involvement occurs early and in many cases of sarcoma of the tonsils.

The fourth specimen was a Superior Maxilla removed for malignant disease. The trouble came on insidiously, manifesting only neuralgic symptoms of the face on the beginning. Finally, the side of the face began to swell and an exploratory aspiration for suspected deep abcess was made. The tumor evidently commenced in the antrum, grew in a backward direction and filled the entire side of the face.

In removing the diseased structure, Ferguson's incision was made and the whole superior maxilla, the malar bone and the zygoma were dissected out. Everything down to the wings of the sphenoid was removed. This left the eye in a bad condition. The wound healed by first intention and the patient has gone home.

Dr. Loeb said that the matter of an accurate diagnosis in growths of the tonsil, could and should be settled by a thorough microscopical examination, which should be made before operating. The history of this case, with the disease limited to the tonsil and not accompanied by ulceration, would lead one to suspect sarcoma, but we must not lose sight of the possibility of syphilis. He related a case in his charge at present, in which he had prepared to remove a very much enlarged tonsil for supposed sarcoma. The operation was postponed on account of the sudden enlargement of one submaxillary gland, non inflammatory in character. He purposed having a microscopical examination made to determine the exact nature of the trouble, and to institute treatment in accordance with the diagnosis.

Dr. William Johnston questioned the ability of a microscopist to differentiate a cancer cell from a normal cell. He also doubted the propriety of operating for appendicitis as often as it is done.

Dr. Meisenbach thought the proper position for a vaginal examination of the pelvic contents, is the semi-recumbent position with the knees flexed and the shoulders elevated, so as to drive the pelvic contents downward.

The surgical opinions in regard to appendicitis, are pretty definitely formed. While there may be some cases of catarrhal processes which will recover by mild purgation, other cases are often purged to death. One of the difficulties about appendicitis is that it is often overlooked, or an innocent diagnosis made by careless examinations. Then there are a great many obscure cases. We should never overlook the symptom of continual pain over McBurney's point, as this is one of the cardinal point in diagnosticating the trouble.

In reference to the specimen of sarcoma of the jaw, the speaker said it is a rather rare disease and treatment is so unsuccessful on account of the late stage at which patients apply for treatment, and on account of the secondary infection, the recurrence of the trouble, to which they usually succumb.

Two years ago he operated upon a lady 60 years of age, who had a very extensive involvement of the left upper jaw. The trouble had come on insidiously and when first seen, there was considerable swelling of the jaw, a soft elastic protrusion through the mouth, and a protrusion into the nares. A very extensive operation was done in this case, comprising the removal of the entire superior maxilla, the malar bone, the inferior orbital plate, the zygoma and the scraping away of all the tissue within reach. The wound healed by first intention, but a secondary involvement, occurring at the site of the original operation, carried off the patient.

Another patient, similarly afflicted, applied for treatment last summer, and was seen by Dr. Barck in conjunction with the speaker. The first suspicious symptom in this case was pain, followed soon afterwards by a protrusion of the eyeball and a protrusion into the left nares. A diagnosis of osteo-sarcoma was made, which had probably originated from the antrum and thence had spread in all directions. The patient agreed to set a date for the operation, but consulted other surgeons, was operated upon three times within the following six months and finally succumbed to the disease.

Dr. Kieffer asked Dr. Prewitt, whether, in the case of hystero-epilepsy, the attacks came on in the fore or after part of the night, and whether the convulsions were preceeded by prodromic symptoms? In explanation of his question, he mentioned a case under his observation, in which the attacks came on at exactly 4 o'clock in the morning and were usually preceeded by nervous symptoms, a cough and a discharge from the throat. Under the administration of bromides; the attacks could be averted a month, but she would have two convulsions the month following. If these were also suppressed by very large doses of the bromides, the patients would continue in a status epilepticus for several days at the following menstrual period.

Dr. Prewitt answered that he did not know at just what time of the day the attacks came on in his case. They could not be suppressed by medication, however.

In reference to Dr. Meisenbach's suggestion, regarding the position of the patient during vaginal examination, the speaker said he usually had the shoulders elevated somewhat with the thighs in a position of extreme flexion upon the abdomen, thereby raising the pelvis to a certain extent. He did not believe that the pelvic contents moves from its natural position to a very great extent, as the organs are pretty firmly anchored in place. Especially is this true in inflammatory conditions where adhesions have occurred.

Ten or fifteen years ago, appendicitis was an unknown disease; inflammations of the appendix being called peritonitis; and that is one reason why there are

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no records of death from that cause. The only possible chance, in a certain class of cases, for the racovery of the patient, is in immediate operation.

The most hopeful cases of malignant disease of the maxilla, are those where the tumor commences in the antrum and develops in an outward direction. The advantage herein lies in the early discovery of the trouble and the greater possibilities of completely eradicating it.

Dr. Hoffman presented a specimen of Carious Vertebræ obtained post-mortem. The history of the case is as follows:

Evidences of the disease manifested themselves four years ago, and the patient first came under the observation of the speaker two years since. At that time all the symptoms of Pott's disease were present. The deformity was in the dorso lumbar region, and pus was discharged from three sinuses, situated respectively above the right groin, below the left buttock and on the inner side of the left thigh. The general health was poor. Patient was placed in a Sayre's plaster jacket, confined to bed for several months, and then allowed to walk about, of course, while wearing the support. The case progressed favorably for 18 months, when the parents insisted upon removing it from the hospital. About three months ago, the child was again brought to the hospital, having fallen about three weeks previously, and was in a very bad condition. Emaciation was extreme, discharges from the sinuses foul, pulse rapid and temperature ranging from 102° to 105°. He lingered about two months and died a short time ago.

The disease was a very extensive one, involving the ten lower dorsal and four upper lumbar vertebræ. The last dorsal, second and third lumbar vertebræ are most completely destroyed, while the remainder are only superficially affected. Some of the inter vertebral cartilages are destroyed and, at the primary seat of disturbance, the spinal canal is open and the cord exposed. There were never, at any time, symptoms of a diseased condition of the cord, which is one of the interesting features of the case. The specimen also illustrates that the diseased condition may extend far above and below the point of deformity, which is the usually suspected situation of the disease.

Dr. Mayfield related a case of Pott's disease, in which a perfect cure had resulted from a 12 month's use of the Sayre plaster jacket. The patient was a little girl, six years old. The two cases illustrated the necessity of prompt and continuous treatment and, although some will succomb in spite of it, the majority of cases can be cured.

Dr J. R. Lemen read a paper (See page 372) entitled,

Uric Acid and Brights's Disease.

Dr. Jacobson called attention to two infectious causes of Bright's disease, both of which he had recently practically demonstrated by cases in his practice. In a case due to malarial fever, the nephritis developed after the second attack, and the urine now shows an abundance of granular and hyaline casts and some albumin. In a case following an attack of la grippe, the pulmonary symptoms yielded to treatment but were followed by evidence in the urine of cirrhotic kidney.

Dr. Fairbrother thought that beside the valuable feature of brevity, the paper had brought out a point which he had demonstrated in his practice; namely, that the kidneys were generally called upon to atone and compensate for the sins of all other organs of the body, including defective mastication, digestion and metabolism. The prevailing idea, that a small amount of albumin may exist in the urine and not be indicative of a pathological condition, is a wrong one. In connection with life insurance examinations, where he was in the habit of allowing small amounts of albumin to pass unnoticed, he has usually had occasion to regret his action. At the present time, he is in the habit of rejecting all risks where albumin is found in the urine, even traceable to a temporary cause, unless the patient submits to a regular course of treatment for the correction of the fault. In his experience he has found that the albumin usually persists in such cases and chronic Bright's disease results. Not even the slightest trace of albumin can be regarded as innocent.

Dr. Lemen stated that he did not attempt, in his paper, to enumerate all the causes of Bright's disease. Albumin in the urine, unless distinctly traceable to a particular article of diet or to over-feeding, always indicates an irritation of the kidney and must always be considered as a serious matter.

Dr. Meisenbach presented the stump of a thigh, to show the result of an amputation which had been performed for a condition of gangrene following an attack of "la grippe." The amputation was performed according to the subperiosteal method of Neudoerfer. The history of the case from which the stump was taken, is as follows: Eleven years ago a paralysis of the anterior muscles of the right leg developed. This condition was very much improved by a few months treatment by electricity, and the patient continued in good health until November 15, 1893. At that time she contracted an attack of la grippe, which was accompanied by the usual catarrhal symptoms and severe pains all over the body. In the second week of this attack the patient suddenly experienced a severe pain in the great toe, accompanied by coldness and numbness of the part. These conditions continued in spite of the treatment instituted, and a discoloration began to appear which gradually developed into gangrene. The process was especially well marked on the fibular side of the leg and extended to the junction of the middle with the upper third. Amputation was done on December 19, and was performed at a point between the middle and lower third of the thigh. Before the operation the patient was stimulated and partly anesthetized with morphine, so as to reduce the amount of chloroform necessary to a minimum. The operation passed off without complications and the wound healed by first intention, with the exception of a small space in the centre of the stump,

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probably due to too much tension during the operation or to some infection from stitches. The wound healed very readily. The patient was moving about on crutches and rapidly gaining strength, when she developed an acute gastro-enteritis followed by septic troubles, from which she died on the 17th, inst.

Some objection might be offered against the selection of the site in the operation, but it has been the experience of operators, that in cases of senile gangrene there is always danger of a development of secondary gangrene, resulting from a thrombosis of the anterior tibial artery, which often extends as high up as the bifurcation. The high amputation is advocated by Neudoerfer and Kuester, whose opinions are based upon extensive original observation. Their position has been challenged by Koenig, but he has failed to show that it is wrong and it stands as accepted to-day.

The Neudoerfer amputation has been performed five times; three times by the author himself, and twice by the speaker. It is the ordinary circular flap operation, the soft tissues being cut through according to the method of Celsus. The division of the bone is preceeded by the formation of a cuff of periosteum with which to cover the sawed end of the bone. The result of this method is an ideal stump. The soft structures are freely movable over the end of the bone, which becomes very smooth and rounded.

In the specimen presented, this condition was beautifully shown. The tissues were soft and pliable and the bone well rounded and freely movable. The speaker called attention to the slight decomposition in the scar which, he said, occurred post mortem, the scar having been perfectly firm during life. One of the points of special interest in the history of the case, is the fact of gangrene occurring in a previously paralyzed limb.

American Medical Association.

The Committee of Arrangements has worked indefatigably on the matter of transportation rates, trying to get a round trip for a single fare.

By advice of Mr. T. H. Goodman, G.P.A. of the S. P. Co., who furnished addresses, we sent out circulars to agents of all roads interrested in the matter.

About one half of those replying favored our petition and promised to advocate it before their respective Associations, through which all such matters must be arranged.

The following communications from Mr. Goodman, place the matter as it now stands, in a clear light:

San Francisco, March 16 1894.

Dr. R. H. Plummer, Chairman Com. Arrangements, A.M A., 652 Mission St, San Francisco.

Dear Sir.—This morning's mail brings us your yesterday's letter handing for our perusal three letters from eastern railway officials. Having read the letters you sent me return them herein and beg to emphasize our previous statements to you in person and by letter, that the Trans Continental roads have virtually done what you ask, namely accorded a one way rate.

In other words, the rate for a thirty day ticket from Missouri river points to San Francisco is $60.00. Excursion, that is round trip, tickets, Missouri river points to San Francisco and return, are being sold to-day at a rate of $65.50. Such tickets require the going trip to be made within fifteen days from date of sale and the return trip within fifteen days after the day upon which the ticket is signed here in presence of a railroad agent, but in no event later than July 15 next.

We have told you that within the state of California we ignore this fifteen day limit on both going and returning trips; in other words, that the holders of the tickets are at liberty to move at will within the state of California within the life of the ticket, and that the fifteen day limit returning is not enforced west of our terminals at Portland, Ogden and Paso.

You have asked our permission to state positively that these Midwinter Fair rates would be in force at the time attendants at your convention will want to move westward. We have replied that the traffic is west bound traffic, and that we do not control the matter. You will doubtless however, recollect our telling you that this rate would, in all probability, hold until after that period. We gave you our reason for that statement, namely, that one of the roads had announced that it would continue the sales up to June 30.

We appreciate you desire for an authoritative statement in this regard. As we cannot make it, we will write you that we feel you are quite safe in stating the fact that such rates have been announced, and that the sale would continue until that date.

We beg to again call your attention to one point, which is quite material in the matter. The Trans Continental roads having virtually done what you asked, you should bring all the influence to bear that you can upon the roads east of the Trans Continental roads. Those roads are, for the most part the ones forming the Western Passenger Association the Central Traffic Association and the Trunk line Association. The Central The Western Passenger Association roads lie between the Missouri river and Chicago and St. Louis. You should go to them for a rate similar to our Midwinter Fair rate. They tell you their rate will be $20.00, Chicago to Missouri river and back, and $12.00, St. Louis to Missouri river and back. As the single trip rate, Chicago to Missouri river, is $12 50, and from St. Louis $7.50, you will see that their rates are not reduced nearly as much as the Trans Continental road rates. Can you not through some of your Profession at Chicago approach the General Passenger Agent of the lines leading from Chicago whose name we have given you. We think they will appreciate the importance of the occasion.

One of our assistants has in hand the matter of reduced rates locally, and you will be shortly advised.

Respectfuly Yours, T. H. Goodman.

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Extracts from letter of Feb. 12, 1894.

"The Rates thus continued are as follows: $65.50 from Missouri river points, being Sioux City, Council Bluffs, Omaha, Pacific Junction, St. Joseph, Atchison, Leavenworth and Kansas City; $77.50 from St. Louis, Cairo, Memphis and New Orleans.

The rates mentioned to you exceed the one-way, thirty-day rates as follows:

That from the Missouri river by $5 50.

That from St. Louis, Cairo, Memphis and New Orleans, by $10.00, and that from Chicago ($85 50), by $13.00.

We deem it but proper to here mention that if our Shasta route between San Francisco and Portland is passed over on either going or returning trip from Missouri river, St. Louis or Chicago, the rate will be $15.00 greater.

As on this occasion passenger movement is from East to the West, it is but proper that the question of rates should be taken up with officials of eastern roads. We suggest, therefore, that you correspond first with those who have charge of the passenger traffic of the, so-called Trans-Continental Association roads. They are as follows: * * *

For rates from the territory lying beyond the Missouri and Mississippi rivers you should address,

Mr. B. D. Caldwell, Chairman Western Passanger Ass'n, Chicago.

Mr. F. C. Donald, Comm'r. Pass. Dept. Central Traff. Ass'n, Chicago.

Mr. L. P. Farmer, Comm'r. Pass. Dept. Trunk Line Ass'n., New York.

Mr. M. Slaughter, Asst. Comm's Southern Pass. Ass'n, Atlanta, Go. * * *

From the fregoing communications it will appear that, while we have not been wholly successful, if the roads between the Missouri river and Chicago and between Chicago and Atlantic points where local travel far exceeds that over the Rocky Mountains, will give the same reductions as the roads from the Missouri river points to San Francisco, we will practically have a single fare for a round trip.

Cannot the Profession in the East, by united efforts, secure these concessions?

The time is growing short, and Chairmen of the several sections should send in their reports, etc., for insertion in the programme.

R. H. PLUMMER,
Chairman.

NOTES AND ITEMS

The International Congress.—The next meeting of the International Medical Congress will be held in Russia, the choice between Petersburg and Moscow to be decided by the Czar.

Mutter Lectureship of the College of Physicians of Philadelphia.—The next course of ten lectures, under the bequest of the late Professor Thomas Dent Mutter, M. D, LL D., "On Some Point or Points Connected with Surgical Pathology," will be delivered in the winter of 1896-97, before the College of Physicans of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating subject of proposed lectures, must be made before July 1, 1894, to William Hunt, M.D., Chairman of Committee on the Mutter Museum, Northeast corner Thirteenth and Locust Streets, Philadelphia Pa.

The Transactions of the Pan-American Medical Congress.—The proceedings of the First Pan-American Medical Congress was compiled by the Secretary-General, Dr. Charles A. L. Reed, and transmitted to the Department of State in November, 1893. By recent joint resolution of the Senate and House of Representatives the manuscript was transmitted to Congress, and a concurrent resolution has been adopted directing a public printer to print the same. The manuscript is now in the office of the Public Printer and will be put to press at once under the supervision of the Editorial Committee, of which Prof. John Guiteras, of Philadelphia is Chairman.

Beaumont Hospital Medical College.—A banquet was tendered to Dr. J. Friedman, professor of chemistry and diseases of children in the Beaumont Medical College May 2, at the Mercantile Club by the faculty and friends of the College. Dr. Friedman is soon to depart for Europe.

After the collation came the toasts, "The Beaumont Medical College" was responded to by Dr. W.B.Outten, dean of the faculty. He reported the college as being in the most flourishing condition, and with most encouraging prospects for the future. In the past week he said an indebtedness of $12,000 had been cleared off, and arragement made to secure a permanent endowment, which would establish the college in the very front ranks of such institutions.

Dr. Lutz responded to the toast, "The Prosperity of Our College." In the course of his remarks he said it was one of the prime objects of the faculty to make the college an enduring institution, one that would fit for their profession the doctors of generations yet unborn. Dr. W. G. Moore responded to the toast, "Our Departing Friend."

A New Enterprise has just been consumated by the organization of a stock company to erect an elegant bath house directly over the well-known Belcher well. The medicinal properties of this water in the treatment of diseases where a water cure is indicated have already given it an extensive reputation.

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Analysis of the Belcher water, United States Dispensatory.—Dr. Litton.

	GR. IN ONE PINT.
Magnesium, carbonate,	0.127
Ferrous, carbonate,	0.066
Calcium, carbonate,	1.329
Potassium, chloride,	1.126
Sodium, chloride,	43 826
Magnesium, chloride,	4 792
Calcium, chloride,	3 448
Calcium, sulphate,	5.709
Silica,	0.017
Total,	60 440

	CUBIC INCHES OF GAS.
Carbonic acid gas,	0.082
Sulphuretted hydrogen,	0.003

Temp. 65°F.

The company has contracted for a palatial bath house to be located directly over the well; the water will run into the bath tubs direct from well, and will be heated by a new process.

On the first floor there will be fourteen bath tubs; faucets will be of aluminium; entire floor will be mosaic, and all partitions will be of polished Georgia marble.

There will be in gentlemen's division office, dressing rooms, cooling, general bath, hot, turkish and shower room. A vapor connects with every bath room. Ladies will have office, dressing room parlor, and three separate suites of dressing, cooling, bath, vapor and hot rooms. Heating and plumbing will be of the most approved method of modern sanitation. There will be cheaper grade bath rooms in basement.

PHYSICIANS who employ iron in their practice should be greatly interested in a new iron preparation recently introduced to the medical profession by Frederick Stearns & Co., Detroit, Mich., called Hæmoferrum, (blood iron). This is a natural proteid compound aseptically prepared from fresh bullock's blood, and put up in three-grain pilloids, (flat pills), with an extremely soluble coating. F. Stearns & Co. claim their Hæmoferrum to be free from all the objectionable features hitherto attending the administration of iron in other forms, it being extremely soluble, pleasant to the taste, agreeable in odor, is readily and easily assimilated, and natural in reaction. Furthermore, it is non-constipating, (a valuable characteristic), non-irritating and non-poisonous, even in large doses.

Wherever introduced it has been warmly received by the medical profession, and has obtained the cordial endorsement of the most prominent physicians in Detroit, in which city it has been thoroughly tested clinically. Dr. Hal C. Wyman, Professor of Surgery in the Michigan College of Medicine, states: "The Pilloids of Hæmoferrum (Stearns') have in my hands proven to be a splendid tonic. In the wards of the Detroit Emergency Hospital we have learned to depend upon them in the preparatory treatment of patients who must undergo severe sergical operations and they have proven useful in aiding the establishment of convalescence."

Hæmoferrum is especially valuable in treating cases of Anemia and Chlorosis where the blood is deficient in Iron. Messrs. Stearns & Co. will take pleasure in mailing samples of the preparation with full descriptive literature to all physicians who are interested, and on receipt of ten cents will forward a full-sized package containing 100 pilloids, a quantity sufficient for a thorough clinical test. Write them.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit, to insure this, a clear and concise history of the case is esssntial, in order, either, to make a correct diagnosis or to give a satisfactory reply.—[ED.

Tuberculin Experiments.

In the month of April 1893, a fat cow sent to market from the agricultural school at Grignon, was seized by the Veterinary Inspector as affected with gentralized tuberculosis. Only a short time previously another cow from the same stock, in fair condition had also been seized in the slaughter house. In consequence of these facts Prof. Nocard was instructed by the Minister of Agriculture to test all the cattle at the school. The operation was carried out June 12, on the twenty-seven animal. These twenty seven animals stood in two seperate byres; twenty three cows, bulls, heifers or calves of various breeds occupying the building from which the two tuberculous subjects had been taken, while four oxen which had been on the premises for several years had during the whole of that time been kept by themselves in another building.

The tuberculous test showed that twelve out of the lot of twenty-three subjects occupying the infected byre, were tuberculous, although all of them were in good condition, and would not have been even suspected of tuberculosis from the most minute clinical examination; the cattlemen reported that only one cow out of the lot had a frequent cough. The twelve animals that had reacted were slaughtered and submitted to a most minute post mortem examination. In every one of them tuberculous lesions of some extent were discovered, but in seven of them the lesions were so slight that they would almost certainly have escaped notice at the ordinary inspection. Professor Nocard regards this experiment as affordiug further valuable evidence of the absolutely specific action of tuberculin.—*Revue Veterinaire.*

QUERIES.

Chronic Edema of Sheath.

Editor MEDICAL REVIEW.—I have a horse, about 13 years old. About four years ago I rode him about six miles into the country over a very hilly road, and got him very hot; it rained on him while at the place and

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he chilled off, when I got home I saw his sheath had begun to swell, the next morning it had swollen to an enormous size and remained that way for sometime; has never gone down to normal size.

It has been as badly swollen three or four times since then, and never does go down to natural size. He is very hearty and has plenty of life. Now, can you, or some of the brethren, tell me what to do for him? Would like to hear from the editor. H. L. DAVENPORT.

The primary cause of the trouble is no doubt due to a sprain in the inguinal region caused perhaps by slipping. Such condition being generally at the time unsuspected the inflammation receives no check until the inflamed part causes stasis and coagulation of the blood; this conegstion, which is somewhat relieved by the serous portion diffusing itself throughout the areolar tissue, causes the sheath to swell and become water logged. Taken at this stage and the disturbance is not difficult to cure.

The proper tratment in these cases is to first—puncture the sheath in different places until all the serosity is drawn off—the puncturing to be repeated every twelve or twenty-four hours if found necessary. The sheath should afterwards be suspended in a broad band age, with woolen cloths packed in and around it, the cloths to be kept constantly wet with water as hot as can be borne, treatment to be kept up until all fever and inflammation has subsided.

This case beiug one of long standing, however, there is every probability that the cellular tissue has now become hypertrophied; if this condition exists the case is beyond reach, as it is well known that where there is alteration of the structure of the tissues, all remedies are useless.—[ED.

Two Cases of Azoturia vel Hemoglobinuria.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

1. A chestnut mare, eight years old, in high condition, the property of a carter, engaged drawing timber. Previous history—healthy. Had been kept inside for three days during the Christmas holidays, and fed as usual. On December 27 was put to work, and after carting the first load of timber from the wharf to the deal yards, about half a mile distant, the driver noticed the animal to be slightly stiff in the hind quarters, but thought nothing of it; after drawing the third load the animal got so stiff that she could hardly walk; she was then unharnessed and taken to a farrier, who examined the feet, but could find nothing, and gave the opinion that she was suffering from a very serious affection, consisting of "*a falling of the blood into the joints*," so he would not undertake the treatment.

I did not see the mare for about two hours after, and on arrival found her lying down, unable to rise, attacked with intermittent convulsions of both fore and hind limbs, pulse full and strong, respirations accelerated, no sweating. Ascertained that neither urine nor feces were passed that morning.

Passed the catheter and found the bladder much distended, and drew off a large amount of very dark coffee colored urine.

The muscles of the haunch were hard and rigid, and there was much nervous excitement present, the attacks of convulsions being very frequent.

A 5-drachm physic ball was administered after some difficulty; also a small dose of chlorodyne and spts. aeth. nit.; to quiet the excitement; also an enema.

Visited again at 4 P.M.; drew off the urine, which was still dark colored, but rather scanty in amount; applied hot cloths to the loins, and gave spts. aeth. nit. every three hours in 2 oz. doses. On food being placed near the animal she would make eager attempts to get at it, but used the jaws in a convulsive manner.

December 28.—Found no improvement in the animal, which had struggled intermittently all night, and had got over on the other side; bowels only slightly acted on; drew off the urine, and found it lighter in color, but thicker and oily-looking in appearance; the struggling became very violent at times. Gave calomel ʒij., aloin ʒij., also continued the spts. aeth. nit.

Visited at 4 P.M.; urine passed in a spasmodic manner while passing catheter. Urine lighter in color.

December 29.—Animal in almost constant fits of convulsive struggling, eyes wild-looking, pupils dilated, takes the food in the mouth but does not chew it, very little action of the bowels, no passage of urine; the owner asked to have the animal destroyed, as he did not consider she had any chance of recovery, and he was worn out from watching her.

She was accordingly destroyed.

The post-mortem examination showed the kidneys much enlarged, especially the right one; both together weighed 5½ pounds.

The liver was enlarged and softened, having the appearance as if it had been boiled.

Beyond the heart being slightly affected with fatty degeneration, no other lesions were found; the brain and cord were not examined.

2. A grey mare, six years old, in hard-working condition, the property of a farmer. Previous history, as given by the owner, was that for some time "she did not pass the urine as she ought," it being occasionally thick and in small amount.

The animal had been kept in the stable for a period of about three weeks, and fed only on hay and mangolds.

On January 9; she was sent to town, a distance of about five miles, with a moderate load; after going the first two miles the driver noticed her becoming slighty stiff in the hind quarters, but drove her on, she gradually became worse, and in the suburbs could go no further, got down on the road, commenced struggling, and continued in this condition from 7 A.M. to 10 A.M. The owner sent for me, but I was unable to attend, and my groom, thinking it was a case of colic, administered a

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ball containing 1 ounce of cannabis indica, also 2 ounces of spts. aeth. nit.; he stated that the jaws were very stiff, and that she made convulsive efforts while swal. lowing, and was unable to rise.

He went to procure a float, and on coming back found the animal standing; she was then walked into my infirmary—a short distance, but she fell twice on the way.

She was placed in a box stall, and appeared perfectly quiet; the urine was very dark colored, and rather scanty in amount; the gluteal muscles very rigid; no sweating at any time. She ate a bran mash, and appeared perfectly quiet and sleeping until about 9:30 P.M., when she suddenly went down, and had attacks of intermittent convulsive struggles, and continued in these for the night; she received chlorodyne ʒij,, which had a quietening effect.

The urine was very scanty in amount, the bowels fairly free. Next day she received tinct. colchici ʒij, which had the effect of increasing the amount of urine, but that was still dark in color.

It was decided to place her in slings, which was accomplished after some difficulty; but she made good use of them, and fed fairly well on bran mashes. Another dose of colchicum was administed, and pot. nit. ʒij twice a day, given in the feed; she gradually improved, the urine became clear and normal in amount, the subsequent treatment consisting of nux vomica ʒj. twice a day. She was taken out of the slings on January 15, walked quite well, but unfortunately got down in the stall at night, which was rather small for her,and could not get up. She was again placed in slings, and two days after was sent home apparently all right, and has continued so since.

Remarks.—In the treatment of cases of this affection, characterized by great cerebral disturbance and violent convulsions and struggling, it is of importance to decide what course to adopt to relieve these distressing symptoms. In some of the cases marked by great violence, which renders the handling of the patient dangerous, it is clear that attempts must be made to promote quietude, as otherwise the animal will wear itself out.

It is evident in such cases that both the cerebrum and the spinal cord become affected by whatever produces the disease; we know from experience that opium and its salts are of no value in relieving the convulsive fits —in fact they often increase them; acting on the bowels or on the kidney will not succeed in preventing them in severe cases; theoretically speaking, narcotics may be said to be contra indicated, but there is no denying the fact that narcotics such as cannabis indica or chloral hydrate give very beneficial effects in such cases, in the way of keeping the patient quiet, and preventing him injuring himself or the attendants, even though a successful issue may not be brought about.

With regard to the kidneys, it often occurs that the secretion of urine is deficient, and when this is the case the administration of colchicum is of the greatest benefit. —*The Journal of Comparative Pathology and Therapeutics.*

Capillary Bronchitis.

℞ Labordine, - - - - - - - - - ℈j.
Spirit. vini., - - - - - - - - - ʒij.
Syr. cort. aurant., - - - - - - - - fʒij.
M.
Sig. Teaspoonful every two hours.

℞ Ammon. iodid., - - - - - - - - ʒss.
Ammon. carbonic, - - - - - - - - ℈j.
Aq. laurocerosi, - - - - - - - - fʒij.
Syr. tolu., - - - - - - - - fʒij.
M.
Sig. Teaspoonful every two to three hours.

Ozena.

℞ Sennin,
Potass. chlorate, - - - - - - - aa ʒj.
Aq. destill., - - - - - - - - - fʒv.
Glycerine, - - - - - - - - - fʒj.
M.
Sig. Apply with atomizer.

Chronic Laryngitis.

℞ Sennine,
Acid tannic,
Sacch. alb., - - - - - - - - aa ʒj.
M. F. pulv.
Sig. For insufflation.

℞ Neurosine, - - - - - - - - - ʒij.
Sig. Teaspoonful at bedtime.

Perimetritis.

℞ Sennine,
Iodoform, - - - - - - - - - aa ʒj.
Ungt. glycerin, - - - - - - - - ʒj.
M. F. ungt.
Sig. Apply on tampon twice a week.

RAILROAD NEWS

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big

Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E. B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

American Medical Association Meeting, San Francisco, June 6-8, 1894.

Delegates to the American Medical Association meeting to be held in San Francisco, June 6-8, 1894, in selecting a route to the Pacific Coast, should not overlook the superior advantages offered by the Denver & Rio Grande Railroad.

This Railroad is not surpassed in any respect by any of the transcontinental lines, and in the manner of scenery it has no equal. The "Scenic Line of the World" operates Pullman and Tourist cars between Denver and San Francisco and Los Angeles.

On all Mid-Winter Fair and nine months tourist tickets, the Denver & Rio Grande allow stop-overs, thus enabling the tourist to visit at the noted Health and Pleasure Resorts along the line in Colorado and Utah, the most noted of which are Colorado Springs, Manitou, Glenwood Springs and Salt Lake City.

Pamphlets descriptive of the beautiful scenery on this line and full particulars, can be obtained by addressing S. K. Hooper, G. P. and T. A., Denver, Col.

Announcement.—American Medical Association Convention to be Held at San Francisco, Beginning June 5, 1894.

The official train of the Association will leave Chicago at 5 P.M., on Monday, May 28, via the Santa Fe Route. It will be made up of Vestibuled Pullman Palace Sleeping Cars. At Kansas City a stop will be made of sufficient length to enable passengers to make short trips of inspection over the city. The train will arrive at Colorado Springs on the morning of the 30th, where a stop of several hours will be made. Denver will be reached at about 4 o'clock in the afternoon. At that point the party will be given a reception by the Colorado Medical Society. The evening and most of the night will be spent in Denver. At an early hour on May 31 the train will depart from Denver for the purpose of making a daylight tour through the great Colorado resorts, and when the passengers awake that morning it will be to find themselves in the heart of Rocky Mountain scenery. This ride includes Colorado Springs, Manitou, Cascade Canon, Ute Park, Green Mountain Falls and Woodland Park—all clustered around the base of Pike's Peak—Buena Vista, Leadville, Hagerman Pass, Red Rock Canon and Glenwood Springs. The last named point will be reached in the middle of the afternoon on the 31st and a stop will be made until 10:30 P.M., same day. At 12:30 P.M. the following day, June 1, the train will reach Salt Lake City, where a stop will be made until 11:45 P.M. of the same day. The party will reach San Francisco June 3, at 9:45 A.M.

ONE OR MORE SPECIAL PULLMANS, AS MAY BE NECESSARY, WILL ALSO BE RUN FROM ST. LOUIS, 8:30 P.M., MAY 28, CONNECTING WITH THE TRAIN FROM CHICAGO AT BURRTON, KAN.

The foregoing is an approximate schedule and is announced at this time for the benefit of those who desire to know as early as possible what provision has been made for their comfort and pleasure en route to the Convention.

The Pullman cars will be at the disposal of the patrons of this train from the time they leave Chicago and St. Louis until they reach San Francisco, and the cost for a double berth will be from Chicago, $15.50; from St. Louis, $14.50, and from Kansas City, $13.00.

Between Chicago and Kansas City meals will be served on the superb dining cars of the Santa Fe Route at the rate of $1.00 each. From St. Louis and Kansas City to Glenwood Springs they will be furnished at the eating houses of the Company, which are nowhere excelled. The cost of meals at Santa Fe eating houses is seventy-five cents each.

The cost of railroad tickets for this occasion will be $85.50 from Chicago, 77.50 from St. Louis and $65,50 from Kansas City. The tickets expire July 15 and carry a transit limit of fifteen days in each direction. Passengers will be given choice of any authorized route returning. Holders of tickets returning via the Santa Fe Route by way of Albuquerque, will be allowed fifteen days east of that point in which to reach Chicago or St. Louis, or intermediate points. Those who desire to return via Portland will be charged $15.00 over the rate above mentioned.

The route indicated in the foregoing itinerary has been described at length from the standpoint of the tourist in a profusely illustrated book of one hundred and fifty pages, entitled "To California and Back." This book will be sent free of charge to any person who contemplates attending the Convention in San Francisco. Patrons are invited to use—returning—our route through Southern California, Arizona and New Mexico, which is designated as the Grand Canon Route, for the reason that in addition to the numerous scenes of interest traversed by this line, it leads the traveler through that portion of Arizona in which the Grand Canon of the Colorado River is accessible. This tremendous gorge has been partially described in an illustrated book devoted to its wonders, entitled "The Grand Canon of the Colorado River," which also will be furnished free on application.

The advantages of an official route upon an occasion of this character lie in the fact that the journey can be made more enjoyably and more profitably by a large number of persons of congenial tastes, bound together by the ties of a common profession and experience. The advantages of selecting the Santa Fe as the official route is due to the fact that it is the Greatest Railroad in the World, with nearly ten thousand miles of its own tracks in fourteen states and territories; and it uses only the best equipment; that the quickness, safety and comfort of its train service are unequaled; that the interest of the scenes along its line is unflagging.

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and that special privileges will be accorded the patrons of this particular train.

A list of the principal agents of the Santa Fe Route throughout the Middle and Eastern States will be found below. Apply to the nearest for copies of the descriptive books above referred to and make your Pullman reservations through him well in advance of the time of starting.

Atchison, Kan., corner Third and Main Streets, J. E. Watson, passenger and ticket agent.

Boston, Mass., 332 Washington street, S. W. Manning, general New England agent; O. M. Chandler, traveling agent; Herbert A. Clay, traveling agent; Wm. T. Clarkson, traveling agent.

Buffalo, N. Y., 68 Exchange street, J. N. Bastedo, passenger agent.

Chattanoogo, Tenn., 111 Ninth street, E. F. Sisson, Southern passenger agent.

Chicago, Ill., 212 Clark street, J. M. Connell, City passenger and ticket agent; Monadnock building, H. N. Butterfield, Northern passenger agent; Monadnock building, C. A. Hartwell, traveling passenger agent.

Cincinnati, Ohio, 169 Walnut street, Geo. T. Gunnip, passenger agent; Robert E. Breder, traveling passenger agent.

Cleveland, Ohio, 213 Bank street, F. T. Hendry, passenger agent.

Colorado Springs, Colo., C. C. Hoyt, city ticket agent.

Dallas, Texas, Grand Windsor Hotel, W. G. Wilkins, passenger agent; W. A. Tuley, traveling passenger agent.

Denver, Colo., Boston Block, H. Collbran, general agent; 1700 Lawrence street, J. P. Hall, Colorado passenger agent; 1700 Lawrence street, Jno. J. Slavin, traveling passenger agent.

Des Moines, Iowa, Savery House, S. M. Osgood, general agent; J. C. Dietz, traveling agent.

Detroit, Mich., 63 Griswold street, G. E. Gilman, Michigan passenger agent.

El Paso, Texas, Wells, Fargo & Co's building, C. H. Morehouse, division freight and passenger agent; C. C. Carpenter, traveling agent; W. R. Browne, city ticket agent.

Fort Worth, Texas, 403 Main street, W. Doherty, passen- agent.

Galveston, Texas, 224 Tremont street, Max Naumann, passenger agent.

Houston, Texas, 208 Main street, R. D. Field, passenger agent.

Kansas City, Mo., 1050 Union avenue and norteast corner Tenth and Main streets, Geo. W. Hagenbuch, Passenger and ticket agent; 1050 Union avenue, Chas. L. Seagraves, traveling passenger agent; W. J. Janney, traveling passenger agent.

Leavenworth, Kan., 320 Delaware street, Geo. J. Chaplin, general agent.

Minneapolis, Minn., 515 Guaranty Loan building, E. Burdick, general agent.

Montreal, Que., 136 St. James street, D. W. Hatch, traveling agent.

New York City, 161 Broadway, Chas. D. Simonson, general Eastern agent; E. F. Burnett, Eastern passenger agent, Chas. A. Marsh, traveling passenger agent.

Omaha, Neb., 1316 Farnum street, E. L. Palmer, passenger agent.

Peoria, Ill., 132 North Adams street, Geo. C. Chambers, passenger agent.

Philadelphia, Pa., 29 South Sixth street, Otto Faas, traveling passenger agent.

Pittsburgh, Pa., 303 Bank of Commerce building, Wm. F. Boyle, traveling passenger agent

Pueblo, Colo., 237 North Union Avenue., F. B. Seawright, City Ticket Agent.

St. Joseph, Mo., Third and Francis streets, W. G. Young, City P. & T. A.

St. Louis, Mo., 101 North Broadway, S. A. Hughes, City P. & T. A.; F. J. Deicke, T. P. A.; L. Rausch, T. P. A.

Wichita, Kan., 158 North Main street, W. D. Murdock, District Passenger Agent.

D. WICHART,
GENERAL PASSENGER AG'T,
ST. L. & S. F. R. R.,
ST. LOUIS, MO.

GEO. T. NICHOLSON,
GENERAL PASSENGER AG'T,
A. T. & S. F. R. R.,
TOPEKA, KAN.

ALL TRAINS RUN VIA WASHINGTON B O S W

BALTIMORE AND OHIO Southwestern R'y

(Baltimore & Ohio Southwestern R. R. Ohio & Mississippi R'y.)

Medical Congress.

The Congress of American Physicians and Surgeons which convenes in Washington, D. C., May 29 to June 1, 1894, will doubtless attract a great many physicians to the National Capitol. Those who do not travel via the Baltimore & Ohio Southwestern will miss one of the most delightful trips on the Continent.

Washington is itself a charming place to visit at this time of the year. It is the center of the Republic in effect, though perhaps not in fact and every one is anxious to visit it.

There is also a charming way to get there. That is over the Baltimore & Ohio Southwestern. This line has, to offer beside, the beauties of a trip over its lines, with the comforts of Pullman Dining, Parlor and Drawing Room Sleeping Cars. Special low rates made for this occasion.

It is the only Pullman Route to Washington and makes better time than any of its competitors. If you are going it is only necessary to ask any representative of the line to have the above fully verified. The St. Louis office is at 105 North Broadway. An illustrated "Guide to Washington" with map of the city will be given to every passenger via the B. & O. S. W. (formerly O. & M(. Further particulars may be had from O. P. McCarty, General Passenger Agent, St. Louis, Mo.

American Medical Association—San Francisco Meeting.

Parties anticipating attending the above meeting should address Jas. J. Aglar, General Agent, Union Pacific Railway, 213 N. 4th St., St. Louis, and procure copies of the following illustrated publication descriptive of the World's Pictorial Route across the Continent; the same will be mailed free on application.

Sights and Scenes Colorado.
" " " Utah.
" " " Idaho and Montana.
" " " Oregon and Washington.
" " " California.

The Medical World.

The attention of the medical world is directed to Utah. Those of you who contemplate attending the meeting of the American Medical Association at San Francisco or the National Homeopathic Association at Denver, in June, should arrange for a few days at least in Salt Lake City, Ogden, and other points of historical and scenic interest in Utah. It has the most healthful climate in the world.

In the summer season, every day when the shadows begin to lengthen, you can, within an hour from the time the notion seizes you, gather with your little family at Saltair on the shores of the Dead Sea, and bathe in its briny waters; or, in the winter season, when "Old Rheumatiz," the unwelcome acquaintance you made in the east, renews his lodgment in your bones, you can, within the city limits, boil him out in hot thermal springs equal to Ojo Calienti, Glenwood, or the Hot Springs of Arkansas.

For pamphlet on the climatic advantages and resources of the territory, write to J. H. Bennett, Salt Lake City. For tickets to Utah and California, apply to any ticket agent for the Rio Grande Western Route—Scenic Line of the World.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXIX ST. LOUIS, MAY 19, 1894. NO. 20.

ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

VII—The Uses and Relative Values of Antiseptics (Cont.)

Quickine.— A trivial, silly and senseless name for what the manufacturer terms "the new antiseptic, anti pyretic and antizymotic." When we consider the formula it puzzles one to discern how even the wildest of dreams could ascribe antipyretic properties to the substance. According to the *Pharmaceutische Zeitung*, Quickine consists of one part of corrosive sublimate, fifty of carbolic acid and fifty two of dilute alcohol It consists, according to Squibb, of one part of pure carbolic acid, two-hundredths of a part of corrosive chlorid of mercury and *one-thousandth* of a part of a mixture of alcohol and water. All of this, as Squibb satirically quotes, is manufactured by a process of "dynamization and potentialization that guarantees to the medical profession the absolute accuracy and uniformity" of the product—or rather mixture. That it has met with little or no success is shown by the fact that in spite of the adoption of catch-penny methods it has been relegated to innocuous desuetude. Whatever of virtue the substance possessed was due to the presence of carbolic acid and corrosive sublimate; these virtues were no greater than those attained by the use of the substances themselves. Hence, having no claim to attention, the mixture has died a death of inanition.

Quinine.—This alkaloid and its salts are too familiar to the physician to need description. These substances, although possessing no marked germicidal power, are yet somewhat antiseptic. The experiments of Arloing, Cornevin and Thomas have proven that the sulphate, in ten per cent solution, does not destroy the bacilli of symptomactic anthrax. Sternberg found that the sulphate, in the proportion 1:800, while it did not destroy various micrococci and bacilli upon which he experimented, yet had the power of preventing their development—that is, in such proportion it was antiseptic but not germicidal. Miquel has determined that the hydrobromate is antiseptic in the proportion 1:182 and Ceri has determined that the hydrochlorate is antiseptic in the proportion of 1:900—that is, its antiseptic power is greater than that of the hydrobromate.

Resopyrin.—This substance M. Portes describes as a compound resulting from the mixture of resorcin and antipyrin in solution in the proportion of their chemical equivalents. It occurs in oblique, colorless crystals which are usually of a rhombic and prismatic structure; it is soluble in alcohol but insoluble in water.

The substance has been known for several years but has now practically passed out of use.

Resorcin.— $C_6H_4(OH)_2$. This substance is also termed *Meta-di-hydroxy-benzene*, *Meta-di-oxy-benzene* and *Resorcinol*. As the chemical formula indicates, it is a di atomic phenol. It may be produced synthetically from benzene but is also made by fusing different resins, such as those of asafetida, galbanum, etc., with the fixed or caustic alkalies. Resorcin is a yellowish or white, flocculent or crystalline powder with a somewhat sweetish and pungent taste and a slightly aromatic odor somewhat resembling that of normal fresh urine. It is soluble in about its own weight of water; it is also soluble in alcohol and ether but very sparingly soluble in chloroform, carbon di-sulphid or benzene. Resorcin is used to some extent in the arts in the manufacture of certain dyes.

Resorcin is said to possess antiseptic properties and on that account is of use in the treatment of various diseases of the stomach and intestinal tract. Its use has been recommended in dysentery, cholera infantum, gastric ulcer, gastritis, diphtheria and affections of the larynx, pertussis and also, by Unna, in acne rosacea. For local use, solutions of 1–3 per cent may be used, or ointments of 5–10 per cent, or even in some cases as high as 25 per cent may be exhibited. When used internally resorcin is usually administered in doses of one or two grains.

Retinol.— $C_{35}H_{16}$. This substance, also termed *Resinol* and *Rosinol*, is obtained by the distillation of

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Burgundy pitch, or pine resin. It occurs as a thick, oily and yellowish liquid, slightly lighter than water. It is said to be a good antiseptic; it is used chiefly as a solvent for various drugs, such as salol, aristol, iodol, creosote, carbolic acid, camphor, cocaine and other similar bodies; indeed the effects of such medicaments are often enhanced by the antiseptic properties of the retinol used as the vehicle.

Desnos, a French observer, has reported very gratifying results from the use of solutions of 5–10 per cent of salol in retinol in certain cases of sub-acute cystitis. He has claimed that it frequently affords prompt relief even after other agents have failed. The peculiarity of the solution is, it is said, that it will remain in the bladder even after from six to eight distinct acts of micturition—of course in such case there is a diminution in quantity after each urination but all is not voided at one act. When used locally retinol may be applied in substance or in ointment; internally it is administered in doses of about one grain.

Saccharin.—$C_6H_4.CO.SO_2NH$. This substance is also termed *Gluside*, *Glucusimide*, *Benzoic sulphinide*, *Benzoyl-sulphonic-imide* and *Anhydro-ortho-sulphamine-benzoic acid*. Saccharin is a derivative of benzoic acid theoretically; practically however it is produced from toluol by a series of complicated synthetical processes.

Saccharin occurs as a white, amorphous or somewhat crystalline powder with an intensely saccharine or sweet taste followed by a slightly bitter after-taste and has a slight odor of bitter almonds—this odor becomes more prononnced upon heating the substance. It is soluble in alcohol and ether, also in glycerin, dilute ammonic hydroxid and in an aqueous solution of sodic bi-carbonate. It is only sparingly soluble in water—one part dissolving in about 230 of water; this solution is intensely sweet and is somewhat acid in reaction. The intense sweetening power of saccharin is its chief characteristic—it is even perceptible when saccharin is dissolved in 70,000 parts of water, being nearly three hundred (280) times sweeter than ordinary cane sugar. It is employed as a sweetening agent in diabetes where the use of sugar is interdicted. It is also a good antiseptic and is said to have given marked benefit in the treatment of cystitis. It has also been used as a vehicle to mask the taste of intensely bitter remedial agents.

Saccharin may be used either locally or internally; the dose is said to be indefinite.

Salacetol.—Also termed *Salicyl-acetol*. This is a new synthetic product obtained by Fritsch by the decomposition of sodic salicylate by means of mono-chlor-acetone, while heat is applied. It has been proposed, like salophen, as a substitute for salol. It occurs in fine acicular crystals or scales with a slightly bitter taste. Salacetol is but sparingly soluble in cold water, but freely so in hot alcohol and the other various ordinary solvents.

It has been used by Bourget of Switzerland in doses of 30-45 grains in incipient diarrhea and choleraic affections. It has also said to have given good results in gout, sub-acute rheumatism and various genito-urinary affections.

It is too soon however to express a positive opinion as to its value or its probable status in therapeutics.

Salicylamid.—$C_6H_4.OH.CO.NH_2$. This substance is an amido compound or derivative of salicylic acid; it was first prepared by Limpricht by treating oil of wintergreen with saturated ammonic hydroxid, it has since been prepared by the action of the latter substance upon methyl salicylate (the artificial oil of wintergreen), or by the action of heat upon ammonic salicylate. Salicylamid usually occurs in the form of colorless, thin, transparent laminar crystals, which are tasteless, leaving a sensation of grittiness in the mouth. It is soluble in alcohol, ether and chloroform; in water it is soluble in the proportion of 1:250.

It has been recommended as a substitute for salicylic acid, and it is said to have several advantages over the latter drug, being tasteless, more soluble, more prompt and powerful in action and possessing greater analgesic power. It has also germicidal powers similar to those of salicylic acid. It is claimed that it has been used with good results in tonsillitis, chronic rheumatism, ovarian pains, neuralgia, etc When used internally, about fifteen grains are administered *per diem*, in doses of from three to five grains each.

Salicylic Acid.—$C_6H_4.OH.COOH$. This substance has been known to chemists for some time, but its introduction into medicine has been comparatively recent. Kolbe found that it could be prepared by treating a solution of carbolic acid in sodic hydroxid with carbon di-oxid at a moderate degree of temperature. It may also be obtained by fusing potassic hydroxid with salicin, the latter substance being a glucoside found in willow bark. Salicylic acid occurs in several species of violet; it also exists as the methyl salt in oil of wintergreen. It is usually sold as a dull white powder, or in long acicular crystals; it has usually a peculiar aromatic and pungent odor, and a peculiar sweetish yet acrid or acidulous taste, which, as Wood says, is accompanied by a transient sense of numbness. Salicylic acid is readily soluble in hot water, alcohol, ether etc., and but sparingly soluble in cold water and glycerine. It is irritant to mucous or fresh wound surfaces.

The drug is usually described as non-toxic, but Quincke, Ogston, Empis, Gubler and Dixneuf, as well as others, have reported cases of death from the substance —indeed, in one case reported, death ensued as a result of the administration of forty eight grains in four hours. The acid has the peculiar property of macerating flesh, and in this way sometimes attacks the hands when used as an antiseptic—it is owing to this peculiar property that salicylic acid is an almost constant ingredient of the various forms of "corn salves." It is also readily absorbed and is eliminated largely by the kidneys and hence is found in the urine.

Kolbe found that the presence of .04% had great influence in preventing the souring of milk; on account of this property it is widely used in beer, and in perishable

food products, to prevent fermentation and decomposition, although such use has been forbidden in some countries. Sternberg found that a two per cent. solution destroyed pus cocci in two hours. Abbott found that micrococci were destroyed by a solution of the strength 1:400. Kitasato found that 1.6% destroyed typhoid bacilli in five hours, and that 1.3% produced the same effect in the same time upon cholera spirilla. A four per cent. solution however failed to affect the organisms of broken-down beef solution. Koch also found that a five per cent. alcoholic solution failed to destroy the spores of anthrax. Miquel has determined that the substance is antiseptic in the proportion 1:1000.

The substance was introduced into surgery by Thiersch, of Leipzig, as a substitute for carbolic acid; it was then thought to possess as much germicidal efficiency as carbolic acid, but experience has failed to demonstate this, moreover it is irritant. As Wood says in his classic work upon Materia Medica and Therapeutics, "There can be no doubt that salicylic acid is capable of accomplishing much in antiseptic surgery, *but it does not seem to be replacing carbolic acid, as it at one time bid fair to do.* Its freedom from odor and comparative freedom from poisonous and irritant (?) properties are certainly strong recommendations in its favor; nevertheless, carbolic acid is more generally employed, and Mr. Callender, after twelve months' trial in the wards of St. Bartholomew's Hospital, has formerly condemned salicylic acid as much inferior to carbolic acid."

It can be used dry with good effect, but it does not adhere firmly to the parts, and therefore in the presence of free secretion it is washed away, leaving the wound surface exposed to infection. In acid diarrheas and fermentative conditions of the intestinal tract it owes its chief value to its restraining and inhibitory influence upon the development and vital activity of the various micro-organisms to which the acid intestinal fermentation is due, rather than to direct germicidal action.

The sodium salt of the acid, sodic salicylate, is said to be a feeble antiseptic and hardly worthy of the name. Indeed all of the salicylates have much less power than the free acid.

SALOCOLL.—This is but the trade name for the salicylate of phenocoll; it is claimed to be more advantageous than the hydrochlorate, being less soluble and therefore freer from the disagreeable concomitant and after-effects. It is said to have been used with satisfaction in influenza.

SALOL.—Also called *Phenyl salicylate*; it is represented by the formula $C_6H_4OH.COOC_6H_5$. It usually occurs as a white crystalline and tasteless powder with a slight aromatic odor; it is soluble in alcohol, ether, turpentine, sandalwood oil, copaiba balsam and the fixed oils, but is insoluble in water. The substance has been suggested as a succedaneum for salicylic acid; it has also antiseptic properties. The drug is said to be of value in diseases of the urethra and bladder and in inflammatory affections of the pharynx and respiratory tract. It has also been used locally in coryza, ozena, skin diseases and as a dusting powder. But by far its most important application is in infectious disorders of the intestinal tract. This is dependent upon the fact that under the influence of the alkaline fluids of the intestines the substance is split up into its components, carbolic and salicylic acids. Loewenthal and others have praised its value in Asiatic cholera, but Reiche says that the experience of the Hamburg epidemic of 1892 was sufficient to demonstrate that the drug was useless in this affection whether given internally or by injection in ethereal solution. Reynier believes that the internal use of the medicament will sterilize the urine unless pus be present in large amounts; for this purpose its administration must be continued for some time. It is probably inferior to boric acid in this respect however.

It is usually administered in doses of 5 to 30 grains. It is folly to expect this amount to sterilize completely the many square feet of mucous membrane of the intestinal tract, especially when loaded down with infectious material. To produce the best results from its use complete catharsis, followed by irrigation, must precede its administration.

A Case of "Cholesteatoma" of the Temporal Bone.

BY CHAS. BARCK, M.D.

Read before the St. Louis Medical Society, April 28, 1894.

HISTORY.—B. E., aged 13, a pale looking and illy nourished boy, was first seen on July 4, 1893 He had been operated upon on the mastoid cells two years previously at Danzig, Germany. For three or four days had violent pain in the ear and mastoid region. Copious discharge from the ear. Swelling and redness of moderate degree upon mastoid and the fistulæ leading into the bone.

Operation the next day in narcosis. After removal of the thinned external plate, a large typical cholesteatoma presented itself, which filled the whole pyramid of the temporal bone, the size of the present cavity. (Together the masses were about as large as a walnut.) The tumor had destroyed most of the posterior wall of the external canal, and had filled this as well as the middle ear. No trace of tympanic membrane nor ossicles could be found. The pearl gray glittering masses were removed, partly with a large spoon, partly with a syringe. Then the anterior wound-lip was united to the posterior wall of the external canal by two sutures, in order to establish a permanent opening behind the ear. This procedure ought to be the rule in all cases of cholesteatoma, as relapses are frequent and the cavity must be kept open for cleansing and inspection. The course of this case, too, proved this position to be correct. Whilst the healing process was a regular one, even now, eight months after the operation, the forma-

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tion and desquamation of epithelial layers has not yet ceased. It is constantly going on, requiring regular cleansing and removal, the patient coming some months once a week for this purpose. If left alone the desquamated epithelial masses would soon fill out the cavity again. There are especially three small foci where the process is more active, to which I direct your attention. The cavity has purposely not been cleansed since Sunday last.

It seems to me that cases of cholesteatoma are far less frequent here than in Europe, judging from the reports. Amongst 51 cases of opening of the mastoid, this is the only instance of cholesteatoma that I met with.

As to the nature of these "pearl tumors" the opinions are divided. They consist of concentric lamellæ of epithelial cells arranged like the shells of an onion. The epithelial cells are partly horny, partly fatty degenerated, and between them are scattered more or less numerous crystals of cholestearin, which give these tumors their glittering appearance. Besides in the mastoid, they are found in the brain and in the spinal cord. In the mastoid they originate most frequently from the mastoid antrum, which is normally lined by a sero-mucous membrane; sometimes from the middle ear. The size it different, ranging from that of a lentil to that of an apple and larger. They are dangerous, as during their growth they destroy the bone around them and, not finding less resistance through the mastoid to the outside, they grow into the cavity of the skull and cause meningitis.

Virchow classed the cholesteatomata first as "true tumors." Lately he says that they are related to the "atheromata" and "dermoid" tumors; but that he is unable to explain their origin. Wenot believes that they are due "to a metaplasy of the cylinder epithelium of the middle ear and antrum in platted epithelium, in consequence of pressure of the dried-up pus." Schwartze and Politzer at last believe that the first origin is "the growing of the epidermis of the internal canal and tympanic membrane into the cavities of the middle ear." This last view seems to have been most widely accepted of late.

Large Round-Celled Sarcoma of the Left Clavicle.

BY A. F. BOCK, M.D.

Read before the St. Louis Medical Society, April 28, 1894.

The patient from whom I removed this growth is fifty-five years of age; of robust appearance; family history good. Patient says he has always had good health, with the exceptionof an occasional attack of gonorrhea and malarial fever. Says he has had syphilis, but upon close examination there seems to be no evidence of the disease, aside from a buboe following gonorrhea or soft chancre. Patient is moderately addicted to the use of alcoholic stimulants. Says he first noticed a swelling on the beginning of last January, situated about the middle of the right clavicle and about the size of a marble, which caused him considerable pain, and was supposed to have been rheumatism. The tumor grew very rapidly, attaining its present size since January this year. I will state that patient denies ever having received any injury at the site of the tumor.

Patient was admitted to the Evangelical Deaconess Hospital about two weeks ago, and upon examination I found a large tumor extending along and above and below the right clavicle, somewhat movable and soft to the touch. It caused the patient a great deal of pain, so much so that he could not sleep. Thinking that it might be syphilis, and wishing to give the patient the benefit of the doubt, I instituted anti-syphilitic treatment, which was continued for two weeks without any benefit to the patient; the tumor, on the contrary, seemed to grow more rapidly. Patient now asked that an operation be performed to remove the growth.

This afternoon, with the assistance of Hugo Summa, Drs. Meissenbach and Brandt, I performed the operation. An incision was made extending from the sternal end of the clavicle, describing part of a circle below the clavicle in order to include the lower margin of the growth. A second and vertical incision was made upwards from the center of the sternum, thus preparing a flap of skin upwards over the tumor. With my finger I carefully and gradually freed this mass from the surrounding parts. The sub clavian artery and veins could be felt and seen below the tumor. The loss of blood was considerable, but patient was brought back to bed in a fair condition.

Dr. Hugo Summa examined the specimen microscopically and found it to be a "Large Round Celled Sarcoma." This being the case I expect very little good from the operation. Patient may be relieved for a while of the intense pain, and if so, the operation will have accomplished all that can be expected.

Cysto-Fibroma of the Left Ovary.

BY A. F. BOCK, M D.

Read before the St. Louis Medical Society, April 28, 1894.

Patient 36 years of age; mother of five children; four are living and healthy. In the past two years she has aborted twice; the last time on March 17, of this year. Since the birth of her first child, 18 years ago, patient has been suffering more or less pain, which has increased in severity after each succeeding confinment. Since March 17 last, patient has menstruated regularly, but has suffered intense pain throughout the duration of the menses. Dr. Hugo Summa first examined patient six days ago and discovered a globular-shaped mass to the left of the uterus. On account of the intense pain which the examination seemed to cause, the patient was sent to the Deaconess Hospital, where Dr. Summa

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and I examined her more carefully while under the influence of an anæsthetic, and we found a tumor situated to the left of the uterus, but seemingly not attached to this organ. It was hard, somewhat nodular to the touch and slightly movable. On examination per rectum, a soft spot could be felt in the tumor, which led us to think of a pus tube, especially as patient suffered such intense pain. But this soft spot was, as we afterwards saw, a small cyst in the tumor. Our probable diagnosis was a "Cysto-Fibroma of the Left Ovary."

The patient readily gave her consent to an operation, which I performed yesterday with the assistance of Dr. Summa and Dr. Brandt. The tumor was so firmly attached to the colon to the extent of an inch and a half or two inches, that I had to leave a thin layer of the tumor attached to the gut in order not to injure it. I ligated the broad ligament in sections, and after removing the tumor, stitched the peritoneum over the cavity left by the tumor. The operation was very difficult, and could not have been performed without the patient being in the Trendelenburg position One of the ligatures, which included the uterine artery, slipped when I was about ready to close the abdominal wound, and, on examining once more before closure, I was disagreeably surprised to find arterial blood filling up the cavity very rapidly; but, fortunately, it was soon arrested by supplying another ligature to the uterine artery.

From what I can find in the literature at my command, this species of ovarian tumor seems to be very rare. Bland Sutton, in his recent work on tumors, says: "Tumors, sometimes of large size, composed of fibrous tissue, have, in a few instances, been demonstrated in the ovary. They may be regarded as pathological curiosities." Prof. Leobold collected up to 1885 fifty six solid tumors of the ovary. Among them, thirteen, or about one fifth, were fibromata.

Menstruation and Ovulation. — From a rather extended histologic study, Leopold and Mironoff conclude that menstruation, *i e*, the periodic discharge of blood from the uterine mucous membrane, is usually accompanied by ovulation, although the former not rarely occurs without the latter. The hemorrhage depends upon the presence of the ovaries and an adequate degree of development of the uterine mucosa, and not upon the maturation and rupture of ovisacs. Ovulation occurs as a rule at the same time as menstruation; the process requires an increased afflux of blood to the generative organs for several days, and results in the formation of a typical corpus luteum. Ovulation may also occur independently of menstruation, though under physiologic conditions but rarely. At times ovulation, with the formation of a typical corpus luteum, is replaced by an afflux of blood to an ovisac that has not matured and does not undergo rupture, resulting in the formation of an atypical corpus luteum. Normal ovisacs may be present at a time when the ovaries are undergoing senile contraction, and they may undergo physiologic rupture and form typical corpora lutea.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

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The Candidacy for the Presidency of the American Medical Association.

Numerous inquiries have reached us concerning the alleged candidacy of a certain St. Louisian for the presidency of the American Medical Association, to which we referred in our last issue. We are also in receipt of a number of communications on the same subject and with singular unanimity they all point to the same individual. There must therefore be a widespread fear lest the Association be induced to act without the proper light. We ourselves consider it a duty which we owe to the medical profession and to the American Medical Association that the personnel of the various aspirants should not be shrouded in darkness. We shall therefore present a faithful pen picture of the St. Louis candidate to the readers of the REVIEW in the next number.

Relation of the Pneumococcus to the Symptomatology of Pneumonia.

Numerous observers have found this microbe in various parts of the air passages in persons who were, at the time, in perfect health (*Modern Medicine*). Pasteur has discovered it in the pharynx and neighboring cavi-

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ties,—the nasal fossæ, the frontal sinus, the Eustachian tube, and even in the bronchi. Netter has shown it to be persistent for an indefinite time in the saliva of persons who had suffered from pneumonia and had recovered. He also frequently observed it in persons who had never suffered from the disease, finding it present in twenty per cent of 180 healthy persons who had never suffered from pneumonia. Golding Bird found the germ present in 505 of a large number of healthy persons whom he examined, none of whom had suffered from the disease in question.

Cultures of the pneumococcus lose their virulence about the seventh day. It is also at this date that a rapid defervescence occurs in pneumonia. The so called "crisis" of the disease corresponds with the loss of pathogenic properties of the germ.

It is also noted that the saliva of the patient, which during the development of the disease is extremely virulent, producing pneumonic infection in animals when introduced by inoculation, loses its virulence about the seventh day.

The pneumococcus rapidly loses its virulence under the influence of a temperature of 40° C. (104° F), and loses all activity when submitted to a temperature of 42° C. This fact coincides with the loss of pathogenic properties which the microbe undergoes under the influence of the high temperature which attends the developing stage of pneumonia.

The pneumococcus does not die, however, at the critical period of the disease, but only temporarily loses its virulence, reacquiring its activity at the end of fifteen or twenty days. This reacquired virulence may be retained indefinitely while the microbes reside in the mouth of the recovered patient.

The Prospective National Bureau of Public Health.

The new bill for the establishment of a bureau of public health, now before Congress, should receive the cordial support of the whole medical profession. It is a bill whose aims are not only to keep epidemic disease away from the shores of our country, which has been effectually accomplished the last few years by the so-called Harris bill, but also to furnish the public with the necessary information as to the nature of the respective contagium, etc., in order to suppress the spreading of communicable diseases in general and thereby minimize their occurrence as far as possible. The provisions of the Harris bill for the maintenance of a maritime quarantine are embodied without essential change in the new bill, so that the protection against quarantinable diseases, such as cholera and yellow fever, which the Marine Hospital service has so ably exerted, is secured. But in addition to this the bill provides, as already stated, for the education of the people in hygienic matters, also for the gathering and publication of the statistics of disease. It would establish a central bureau through which every citizen of the land would be informed, by weekly bulletins, where the centers of of communicable diseases are located, so that adequate measures may be taken for their avoidance and control. The Bureau would secure international co-operation in hygienic matters and foster scientific research with the view of investigating the causes and means for preventing or suppressing communicable diseases. It would advise and inform the several parts of the government and health authorities of the different States on such questions as may be submitted by them to it, or whenever in the opinion of the central bureau such advice and information may help to preserve or improve the public health. The bureau is to form a part of the Department of the Interior.

At its head is a commissioner of public health, who is to be an expert sanitariam, appointed by the President, with the consent of the Senate, at a salary of $6,000. A sanitary council, consisting of one physician from each State in the Union, secures to the commissioner a body of competent and trustworthy advisers, and serves to enlist the co-operative interest of the several States and the representation of such special local interests as may from time to time be involved. These councilors are selected by the Governors of the States which they represent, and receive no compensation other than their expenses.

The practical administration of maritime quarantine is to remain in the Treasury Department, so that it may command the experience and resources of the Marine Hospital Service. The Bureau of Health would complete and supplement the work of the Marine Hospital Bureau.

It has been objected to that the maritime quarantine should be separate in its administration from the bureau of health, thereby creating a confusion, as one department would have to carry out the rules of the other; the inspecting of the work of quarantine officials would have to be carried out by the bureau of health, but this is not without precedent and is rather an advantage than an impediment.

The pending bill does not interfere with the authority of States thereby avoiding all political differences. The only field in which the National Bureau would have administrative jurisdiction of its own is that of international and interstate quarantine, which is a matter of national concern.

It is the duty of the National Government, to the country as a whole as well as to the individual, to take care that its citizens are enjoying the best possible health and the amount of good which would accrue from the enactment of the pending bill would be incalculable. It would not only insure a smaller percentage of communicable diseases, but would improve the general health of the citizens by disseminating general knowledge in the science of hygiene.

The National Quarantine Committee of the New York Academy of Medicine, who prepared, revised and amended the bill deserves great credit for its labors; it

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has, by its public spirited work, erected itself a monument more durable than bronze, and it is to be hoped that Congress will speedily enact the bill into a law.

Different Types of Surgical Inflammation Based on Bacterial Examinations.

While a great variety of bacteria are capable, under various circumstances to produce pus, those most constantly found in inflamed wounds and abscesses, and apparently of most importance to the surgeon, are the staphylococcus pyogenes aureus and the streptococcus pyogenes. It has also been observed by most authors that the streptococci are the most virulent and are principally the cause of rapidly advancing phlegmonous inflammations. At a meeting of the New York Academy of Medicine, Drs. C. N. Dowd and Park have reported some interesting bacteriological examinations as follows:

Dr. C. N. Dowd: The observations were made on cases of cellulitis, recent infected wounds, abscesses, furuncles, broken down sebaceous cysts, and on stitches and needles from wounds. The examinations were made by inserting sterile swabs in the wounds, and streaking them on agar Petri plates. Gelatin and beef tea cultures were made from these, also a certain number of animal inoculations; and microscopical study was made of cover-glass preparations of the pus, and of the growths on the agar. Nearly half of the bacteriological work was done by Dr. William H. Park

1. In all of the cases in which there was acute inflammation with severe constitutional symptoms, there were abundant cultures of streptococci, or of the golden staphylococci.

2. There was another class in which there was inflammation of a less severe type, sometimes a limited superficial suppuration on the hand or foot, sometimes a little moisture or small abscesses about stitches or drainage openings. This was the type which always existed where only the white staphylococcus was present, or a lemon colored one which seemed closely allied to it.

3. In cold abscesses, buboes, small healing ulcers, etc., no bacteria, or only a few, were found.

4. In still another class, the bacteria causing the original inflammation were replaced by bacteria of putrefaction or other foreign bacteria. In the first class it was found that the streptococci were the most virulent. Where a spreading, persistent cellulitis or phlegmon existed, they were regularly present. In the two cases of pyemia they were present in pure culture in the metastic abscesses, although both they and the golden staphylococci were present in the primary wounds. In fifty two cases of cellulitis there were eight showing this persistent tendency to undermining of the tissues. There were also several cases bordering between cellulitis and erysipelas. The weight of authority among bacteriologists is to the effect that the difference between the streptococcus pyogenes and the streptococcus erysipelatus cannot be distinctly defined, and are no greater than those seen between different individuals of the same species, and clinically it is often difficult to make the diagnosis between erysipelas and cellulitis.

Practically this is a matter of great importance, for we are careful about coming in contact with erysipelas, while but little care is taken in regard to examining and treating cases of cellulitis. The staphylococcus pyogenes aureus was found in pure cultures twenty-seven times. It generally caused severe inflammation. In no case in which the staphylococcus alone was obtained was there a spreading inflammation. They were obtained in pure culture in eleven cases of inflammation of the hand, and yet in not one of them did the inflammation spread so as to make the incision necessary above the wrist. While in five out of twenty-two cases of streptococcus cellulitis of the hand, such incisions were necessary.

The furuncle illustrates fairly well the type of inflammation caused by staphylococci—a severe inflammation causing necrosis of the tissue and giving several constitutional symptoms, but not spreading by extension.

The white staphylococcus was found in pure culture eleven times. Only one of these was a case of cellulitis. In this case the point of infection was a palmar bleb. After incision, the inflammation subsided very quickly without constitutional disturbances. Evidently this type of inflammation does not require the same treatment as the other varieties, and this bears out the position taken by Welch. These staphylococci were found in several stitch abscesses. They were regularly found in superficial granulating wounds in conjunction with other bacteria. A review of the literature of the subject shows that the white staphylococcus has ordinarily but little virulence in man. This is especially interesting, as it is to be remembered that these micro organisms have frequently been found in wounds apparently aseptic, and in the skin after attempts have been made to render it surgically clean. Five times a staphylococcus was found which seemed identical with the staphylococcus albus, except that after ten days it changed to a cream color, and then to a lemon hue. I cannot say whether or not this has any significance.

In seventeen cases of this series there were no growths, and in five others only a very few bacteria were found. If we can distinguish those forms of inflammation which have little infective power, and treat them by suture, or allow them to heal up under a blood clot, the results will certainly be very different from what they would be if we adopted the open method of treatment. In two cases of ischio-rectal abscess the bacillus coli communis was found, but these abscesses were not especially severe.

Dr. Wm. H. Park said: In the paper the staphylococci were divided into the golden, lemon and white colored, while the streptococci were grouped together in one class. We have as yet no satisfactory division of streptococci. Some grow in long chains, others in short; some grow in flocculi and leave the bouillon clear, others cause it to remain cloudy. Both of these groups

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contain virulent and non virulent streptococci, and the members of one group may change to the other. Although a streptococcus tends to retain its peculiar pathogenic properties, yet even these gradually disappear.

These same tendencies are present, but to a less extent, in the staphylococci.

Injections of mixed cultures of virulent streptococci and staphylococci in animals have been found to bear out the clinical histories reported in the paper. The streptococci will penetrate to distant points, whereas the staphylococci will remain where they were injected; hence, a wound which is infected with staphylococci should be guarded from a streptococci infection An infected wound is usually not very carefully protected, forgetting that there may be even a worse infection. From my investigations into throat affections, I find that in New York City at least, streptococci are almost always, and staphylococci sometimes, present in the healthy throat. The mucous membranes, as well as the skin, are thus a source of possible infection.

CORRESPONDENCE

Pus Tubes.

Editor MEDICAL REVIEW.—In a recent issue of the REVIEW my attention was called to the discussion of the subject of "pus tubes" at the regular meeting of the St. Louis Obstetrical and Gynecological Society, March 15, 1894. Dr. Glasgow opened the discussion by presenting the case of a young married woman with symptoms and signs of tubal trouble, which dated back five months to a trivial exposure and fatigue; which he treated by means of dilation, curetting and packing with gauze. Following the tamponade there was a free discharge of fluid which he says was purulent; not offensive. After this his patient entirely recovered. He then instanced another case somewhat similar, consequent upon gonorrhea in the husband, which, it seems, has not as yet completely recovered, having had a recurrence since she left his care.

The point to which my mind was particularly called was the fact of pyosalpinx being treated by means of tamponading the uterine cavity. It certainly is not a new idea and the same mode of procedure to-day has still its advocates; but that the Society as a whole should consider it proper, seems to me, novel. I suppose the term, pus tubes, refers to a cystic purulent salpingitis; not profluent. Now it is true that we have a salpingitis, active in course, following infection, which with proper care tends to get perfectly well. It is profluent with an easy route into the uterus and an open fimbriated extremity. Upon recovery the patient is able to accomplish her normal functions and we say is entirely restored. These cases are not very rare but are often overlooked or unrecognized. Should there be a tendency to more or less chronicity in the process, the twisted tubes often become obstructed in caliber near the uterine end and close below at the fimbriated end to prevent abdominal discharge. This gives us not infrequently a cystic formation with still a patulous canal into the uterine cavity. In such a case of cystic formation the epithelial coat is not destroyed but remains altered, as cuboidal or flat, which preserves the integrity of the canal, however small it may be. In such a case I can readily see how a systematic dilatation of the uterine cavity could bring about a flux of the cyst contents and relieve the symptoms presenting, for a while There is one thing to be considered in packing the uterus in these cystic tubal formations and that is there is always a liability of superadding active tendencies in the inflamed area because of the prolonged presence of the gauze and the necessary instrumentation in a naturally septic locality. Uterine contraction at times may also cause an abdominal discharge through a weakened spot. Should this not occur however and good drainage take place and symptoms be relieved one must necessarily always feel uneasy of the welfare of his patient for she certainly has an organ which having closed at its abdominal end is useless to her and being a "locus minoris resistentiæ" is a constant menace to her welfare.

The majority of cases, however, of pyosalpinx following abortion, gonorrhea, etc., are not so readily dealt with. They are usually acute in process and often threaten the patient's life. If the acute period can be tided over without operating, it certainly is best in the majority of cases, but having piloted your patient through this, it now certainly becomes your duty to strenuously urge their removal. The active purulent inflammation has brought about a decided change in the tube which in the great proportion of cases gives rise to complete destruction of the lumen of the tube at several points, with consequent actual retenting cyst. Those who doubt the obliterating tendency of this salpingitis I would ask to examine closely the next ten pus tubes they remove unless their timidity or lack of success formerly causes them to desist from such practice. If such be the case use the post mortem table, which is safer. The obliteration is so complete that even microscopical traces of the tube do not remain in places beyond the cyst, proximal or distal. Few men to-day say "let us pack the uterus for the relief of such a condition" who have observed the results of the bolder but more correct surgical procedure, by competent operators. In every case of pyosalpinx we have a useless organ menacing the life and happiness of the patient carrying it. In profluent salpingitis with its patulous tube we should by all means try to save it in its integrity and nothing accomplishes it so well as a good uterine drain. When we discover the fact that a cystic formation has taken place I believe it to be criminal not to advise removal by one competent to do so.

T. C. WITHERSPOON, M.D.

St. Louis, May 7, 1894.

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Correction.

Editor MEDICAL REVIEW.—Will you please make a correction of the report of my discussion of Dr. Jennings' paper on the use of mydriatics, published in the May 5th number, in which I am made to say that Dr. Savage uses mydriatics in *all cases over* 45 years of age. I said exactly the reverse—in *all cases under* 45 years of age.

This correction is especially due Dr. Savage whose views on this subject are too explicit to allow of any mistake.

T. E. MURRELL.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, April 28, 1894. the President, W. B. OUTTEN, M.D., in the chair.

DR. CHARLES BARCK read a paper (See page 389) entitled,

A CASE OF CHOLESTEATOMA OF THE TEMPORAL BONE

DR. BROOME thought that there exists a great deal of confusion in the minds of the profession, as to the proper point at which to operate in disease of the sigmoid sinus and antrum, the proper manner to proceed, and the kind of instruments to be used. He thought that there is no reliable instruction on the topographical anatomy to be found in the American Text Book of Surgery, in Macewen's recent work, in Kocher's "Practical Surgery," nor in the writings of Keene. The objection to Macewen's supra-meatal triangle is the difficulty in locating it. Then, according to his method, the antrum is entered by going in anterior to the cells, necessitating the chiseling away of the bony partition between the cells and the opening made by his operation. The speaker's criticism of the writings referred to, and the method which he found to be absolutely correct, are based upon experimental operations, done post mortem on intact skulls.

He found that if a line is drawn directly from the auditory process, or the posterior border of the external ear, to the top of the digastric fossa, a point on this line midway between these two locations is the proper place of entrance for the instrument., if you wish to reach either antrum or sigmoid sinus by the one external opening. The drill is introduced paralel to the canal of the ear, until the mastoid antrum is reached, and if the sigmoid sinus is to be opened, it is then pushed down ward and backward.

The best instrument, in his estimation, is the ordinary carpenter's hand drill. It operates upon the same principle and may be fastened into a handle, to which may also be attached the various sized burrs of the design of Macewen, or the trephines of various diameters. This instrument, in the speaker's opinion, is more elegant, more easily controlled, when operated by hand than when driven by the dental engine, as it is done by Macewen.

After the instrument has entered the antrum and pus has been found, the drill may be used as a guide in enlarging the opening, which is best and most readily accomplished by the trephine. The chisel is not desirable because it cannot be as easily and safely handled, and because of the traumatic insult accompanying its use and the possible dissemination of the pus as a consequence. If no pus should be found, there has been no harm done to the antrum, at all events.

The prevailing opinion that the mastoid antrum is but a short distance from the surface of the skull, seems not to hold good in all cases. The speaker, in his experiments, has found it $\frac{3}{4}$ of an inch, and sometimes an inch from the surface. He considers the mastoid foramen the best guide towards finding the lateral sinus, the objection being, however, that it is absent in two-thirds of the cases.

The advantages claimed by the speaker for his method are, the simplicity of determining the points of entrance, the constancy of the landmarks, the rapidity of the operation, the absence of danger of injuring the aqueductus fallopii or the facial nerve and the fact that the mastoid cells are reached without further chiseling of the bony partition.

DR. MEISENBACH thought that the drill presented by Dr. Broome, is a dangerous instrument. It cannot be properly regulated, because a certain amount of pressure must be exerted in order to overcome the resistance met with in penetrating the bone. He considers the chisel the safest instrument, as it can be properly gauged by the finger.

There is some doubt about the validity of Macewen's claims, in the doctor's opinion, regarding the dissemination of pus by the concussion produced by the chisel and mallet. He thought also, that the burr of Macewen arranged on a dental engine, on a proper handle, is a very safe instrument, as the rate of penetration can be regulated to the minutest fraction of an inch.

DR. BARCK, too, thought that the instrument exhibited by Dr. Broome was somewhat dangerous, and that is so on account of the varying depth of the antrum from the surface of the skull; being less than one centimeter in some cases, and exceeding one and two-thirds centimeters in others. What seemed most dangerous about the operation, as described by Dr. Broome, is the point at which the latter enters. The speaker said that he is absolutely convinced that if Dr. Broome were to continue his experiments as he has outlined them, he would enter the sigmoid sinus directly instead of passing through the antrum first. The depth of the sigmoid sinus is exceedingly variable in different individuals, as was especially shown by Koerner. In the first place, it

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is more shallow in children than in adults, growing deeper into the temporal bone later in life. Secondly, the broader and shorter the skull, the deeper the lateral sinus. Thirdly, there is a difference between the left and the right side; the right being deeper than the left.

In some cases which the speaker has seen, the sigmoid sinus went in so deep, that a line from the posterior wall of the external auditory canal and the wall of the sinus, was not even a half centimeter in length. In such an instance, Dr. Broome would go directly through the sinus in an oblique direction, if operating in accordance with the directions as outlined by him.

As to the instruments used in opening the antrum, he throught the burr driven by a dental engine, as used by Macewen, would compare well in the future. He said he had ordered one and expects that it will act very beneficially. The difference between its use here and in Europe is that it can be firmly fixed in Europe as most of the operations are done in hospitals, while here it must be transportable, and the driving power is, therefore, less convenient. So far, the speaker has used chisels and gouges exclusively in his operations.

He determines the point of entrance by taking as an upper point the external opening of the upper wall of the external auditory canal, and drawing from this point a line directly backward. On this line is mapped out a quadrangular area about one centimeter square. The supra-meatal triangle, as given in the text books, is not trustworthy, as it cannot be found in the living skull. The point of entrance described by Eacewen, the speaker believed, is absolutely incorrect, as it would lead directly into the middle cranial fossa.

The objection to the drill, exhibited by Dr. Broome, is that you are liable either to miss the focus of pus entirely or to skip one or two foci after having opened up abcesses in other localities of the cells. These multiple abcesses are the result of chronic processes, and are the more dangerous on account of the bony sclerosis which results. In order to discover all the foci it is necessary to chisel away all the hardened, ivory-like bone, and it is often necessary to go down deeper than the antrum.

Dr. Outten had seen a number of cases in which a scalpel was the only instrument necessary to permit of a proper cleansing of the cavity, of the pus. In these cases, as in other localities, the abcess had filled the cavity and, following in the direction of least resistance, had indicated a point of exit.

Dr. Broome still believed that the point of election for entrance into the cavity, as he demonstrated it, is the most reliable that he has been able to find, both in literature and in his own experience.

The primary focus of suppuration is always the tympanum, and the communication between this point and the mastoid cells is through the attic and antrum. According to this we should first perforate the antrum and treat it from above. Then, if the mastoid cells are implicated, they may be opened subsequently. Of course, this refers to earlier cases where there has been no erosion of the bone and perforation. After that has taken place, a scalpel will answer the purpose.

Dr. A. F. Bock read two papers (See page 390), entitled,

Cysto-Fibroma of the Left Ovary,

and

Large Round-Celled Sarcoma of the Left Clavicle.

Dr. Hugo Summa presented two specimens. One was a Cancer of the Stomach of great rarity; and the other was a Cancer of the Pancreas.

The first specimen was from a patient who had been under the care of the speaker from September to December, 1893, and was then lost sight of until about three weeks before his death. Before coming under observation, he had been treated by a number of physicians for an obscure stomach trouble. The only symptom present at first, was constant pain in the epigastric region. He has vomited on several occasions for two or three weeks, but digestion was very good. Bowels were regular. Physical examination revealed nothing at first and a chemical analysis of the gastric contents revealed free hydrochloric acid present at all times. Toward the end of December a small area of dulness could be percussed over the epigastric region. When he returned, three weeks before his death, he was extremely emaciated, the area of dulness had extended down to the umbilicus and the relatively rare symptom of a small indurated gland was found in the left supra clavicular space.

The patient insisted upon an operation; gastro-jejunostomy was performed, but he died five days afterward, not from septic trouble but from exhaustion.

The removal of the specimen proved it to be a case of "ulcus carcinomatosum" accompanied by metastatic cancer of the liver. The condition cleared up the symptom of free hydrochloric acid, which is absent in most cases of common cancer of the stomach. This variety is rather rare, only 14 cases having been reported up to 1891.

The second specimen was one which presented all the clinical features of cancer of the stomach. A post-motem examination revealed an extensive cancer of the pancreas, involving not only the head but the body as well. It had grown upward behind the stomach, around the pylorus and was attached to the liver, dragging these organs downward, so that the greater curvature of the stomach extended to a point about two inches below the umbilicus. As in the first specimen, there were metastatic tumors in the liver, about fifty cancerous indurations in the diaphragm, and it had grown to the left kidney, producing metastatic cancer in this organ also. It is a rare specimen, owing to the extensive metastasis of the cancerous condition.

As to the absence of free hydrochloric acid in cancer of the stomach, recent researches have proven this to be due to an accompanying gastritis and not to the cancerous infiltration.

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Dr. Mayfield presented a portion of an Hydatiform Mole, taken from a patient 27 years old, who was supposed to have been pregnant, and to have aborted. The delivery was accompanied by all the symptoms of labor lasting several hours.

A Plea for the Treatment of Typhoid Fever by Cold Baths.

Dr. Charles Shattinger read a paper with the above title.

American Medical Association.

Circular from Committee of Arrangements.

The American Medical Association will meet in San Francisco June 5, 1894.

The Transcontinental railroads have made favorable rates, viz., $65.50 for round trip from all Missouri river points which is one and one twelfth fare.

The Southern Pacific Company's rates from Portland, Ogden and El Paso are one fare.

All tickets sold at these points carry five coupons of admittance to the Mid-Winter Fair.

The roads beyond Missouri river points are still charging about one and a half fares.

Cannot our brethern east of the Rocky mountains yet induce the Central Traffic Association and Trunk Lines to equalize these rates? Several agents, in response to our circulars asking for a single fare, replied favorably, but stated it required united action of the several associations.

An extensive itinerary for those who come from the Northern and Middle States is published in the Journal of the Association. In the April number of the *Occidental Medical Times*, Dr. Parkinson has published an extensive itinerary of excursions and entertainments in this State for members and their families during and after the meeting.

Those who come from the Southern States will probably come over the Santa Fe and Sunset route. It will be well for them to come early and do the Southern part of the State on the way up, and then depart via the Ogden or Shasta route. This will afford the greatest possible opportunity to note the varied resources of the Pacific Coast, and the variety of scenery and climates within our borders. The Colorado Desert through which the road passes is 312 feet below sea level, with a dry, hot atmosphere.

Going out over the Denver and Rio Grande, one reaches an altitude of 10,500 feet; while on the Shasta route the road passes Castle Crag Tavern, winding around the base of Mount Shasta, whose summit is 14,444 feet high, and clad in eternal snows.

Colton and Riverside; the first important points reached on the Sunset route, are already far famed for their delicious fruits and extensive orange groves, which line the streets and highways for many miles.

Drs. M. F. Price and K. D. Schugart of the local committee on reception will take delight in showing them to visitors.

From here to San Diego and Coronado it is only four four hours' ride. They are located upon the bay in the extreme southwestern part of the State, only four miles from the Mexican border. This is now a fashionable all-the year-round resort with one of the largest and best equipped hotels in the world, its main dining room having a capacity for a thousand guests.

Facilities for bathing and boating in the sheltered waters of the bay are unexcelled. Drs. C. M. Fenn, W. A. Edwards and C. C. Valle of the local committee will extend every courtesy to visiting members.

Los Angeles, the chief city in the South, too well known to need any description here, is only five hours distant on the way north. Here Drs. H. Bert Ellis, H. S. Orme, Walter Lindley, Jos. Kurtz, J. P. Widney and W. L. Wills of the committee on reception will be delighted to show visitors the city and its suburbs, Pasadena, Santa Monica and other points of interest.

Santa Barbara, another charming resort by the sea, famous for its adjacent olive groves in which it rivals Palestine, is only three hours' ride from Los Angeles. Here Drs. S. B. P. Knox, J. M. McNulty and R. J. Hall of the local committee will do the honors of the occasion.

Leaving Santa Barbara by rail the next point of interest will be Bakersfield where an extensive system of irrigation has transformed a desert into a veritable garden of Eden.

Then comes Fresno the largest and most successful vineyard district in the State where Drs. Chester Rowell, and A. J. Pedlar of the local committee will pay every attention to visitors.

It is only seven hours' ride from here to San Francisco where the members of the Reception Committee will meet the visitors and escort them to their respective hotels. Those who come in over the northern routes, via Mount Shasta, Castle Crags Tavern, Soda Springs, Chico and the State Capitol at Sacramento, may desire to depart by the Santa Fe or Sunset route.

R. H. Plummer, Chairman.

ABSTRACTS

SURGERY.

The Inch-and-a-Half Incision and Week-and-a-Half Confinement in Appendicitis.—Dr. Robert T. Morris read a paper with this title at the Medical Society of the State of New York in which he said, that we had recently learned four principle things relative to appendicitis, and he now asked the members of the profession to accept a fifth point:

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1. We had learned that appendicitis was of such common occurrence that every general practitioner had had many cases in his clientele.

2. It was now generally known that multitudinous forms of abdominal inflammation were symptomatic of appendicitis.

3. Statistics showed that the late operation did not give much encouragement.

4. It was known that an early operation or an operation in the interval between attacks was attended with trifling mortality (with none at all in his experience), but that there was danger of ventral hernia resulting from the operation if a long incision was made.

The fifth point was this: We did not need to make a long incision in appendicitis cases that were operated upon at the outset of the inflammation, or in interval cases, as a rule; and there would be no permanent scars if the surgeon would accept as standard the author's abdominal incision, which was an inch and a half in length, the divided structures of the abdominal wall being united separately with fine catgut afterward. The author buried the stump of the appendix with Lembert sutures. The abdominal scar disappeared entirely, so that at the end of a few months it could not be seen. His death rate had been nothing at all in cases without pus, and physicians upon whom he depended for cases were not ashamed to have him find pus in the cases to which they called him. He did not know just where to look for danger in any of the cases operated upon at the time of his choice, but called the attention of members of the society to one danger in the use of carbonate of sodium for reversing peristalsis of the bowel. A note was at present going the rounds of the press to the effect that carbonate of sodium was useful in reversing peristalsis, but the author, in experimenting with rabbits, had accidentally discovered that carbonate of sodium on touching the ileum regularly produced intussusception in less than forty-five seconds. The mechanism of the intussusception consisted in spasm of a belt of circular muscular fibers of the ileum, and this portion was then quickly invaginated by the peristaltic action of the longitudinal muscular fibers. The author now used chloride of sodium for reversing peristalsis in all of his operation.

He stated that there was strong opposition to his plan of removing an infected appendix just as soon as it was discovered, but this opposition must fade away as soon as physicians generally could benefit from his experience, which was to the effect that appendicitis was an infectious exudative inflammation which did not disappear on the disapperance of the symptoms. He had removed a large number of appendices from patients who felt perfectly well but who could not obtain life insurance, or who feared recurrence, having had a previous attack of appendicitis. In all these cases he had found destructive processes in progress. Sometimes there was slowly progressing necrosis of the lymphoid tissue of the appendix; sometimes he found tuberculosis or carcinoma insidiously beginning at the seat of the old inflammation; sometimes adventitious bands set snares for the bowel; and he had discovered that proliferating endarteritis, which must eventually lead to gangrene of the appendix, was common in very mild chronic cases. He had found proliferating endarteritis producing slow occlusion of arteries of the appendix in three mild chronic cases in succession.

Surgeons were laughed at occasionally because they found normal appendices at an operation for supposed appendicitis, but he did not believe that proper examination had been made of the specimens. He had removed two or three appendices which were apparently perfectly normal, but the patients' symptoms had all stopped after operation, and when cultures of bacteria and microscopic sections had been made from these specimens, it was found that they had been dangerously infected. The mucosa and adenoid tissue were undergoing destruction by the colon bacillus.

When his inch and a-half abdominal incision was employed in the removal of infected appendices, patients left the hospital at the end of a week and a half. If an incision two inches long was made, the patient would not be ready to leave until fourteen days after operation, and if the incsion was from two and a half to four inches long, eighteen days would be required for repair. Consequently he had adopted as a standard the inch-and-a half incision and a week and-a-half confinement plan, which left no hernia and an evanescent scar.

By operating immediately in acute cases, he did not mean on the following day but on the following hour. Physicians who did not accept this plan must lose a few patients that they did not expect to lose, and they must let very many patients suffer tediously and unnecessarily; but there would not be much further opposition, because physicians were only too glad to do the very best thing as soon as they had learned what it was. The insurance companies would not insure a patient who had ever had appendicitis and whose appendix still remained, if they were to note the character of the adventitious peritoneal bands which formed in these cases, and if they observed the persistence of appendicitis and of supplementary diseases in the appendices of patients who were thought to be quite well.—*N. Y. Med. Journ.*

Some Observations on the Use of "Sennine," a New Antiseptic.—C. B. Lyman, M.D. (*Medical Era*). The list of antiseptic powders which the market affords is daily increasing. Chemists seem to have been busy in the last few years in their endeavor to give us a substance which will be truly an antiseptic, and which will be free from all objections; which can be used on a large surface, or where absorption easily takes place, without fear of harm; which will be free from local irritative action, a disadvantage which iodoform presents in many cases. Most if not all of them have had some failings. I have tried many of them, and up to quite recently have found none

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which would replace the old stand-by -- iodoform.

A new one was recently called to my attention in the shape of "Sennine," which has thus far proved to be entirely satisfactory. Its name should be enough to recommend it, if there is anything in a name. It may be too early to give it an unqualified approval. The cases in which I have made a trial of it have been just such cases as would put it to a severe test, having been mostly cases of accidental surgery seen in my work in connection with a large railway corporation. Most of the cases occurred either in the shops or switch yard, surrounded by conditions certainly not very favorable to aseptic surgery. Some of them were removed to the hospital at once and taken care of there, others were treated at the place of accident, and still others fell into the hands of other surgeons and did not reach mine for from twenty four to thirty-six hours after the injury was received.

Sennine, as it comes to us, is a white, flaky powder, with a very slight but not unpleasant odor, and soluble in water, and is said by its manufacturers to be a chemical compound of boracic acid and phenol. I have not made any laboratory experiments as yet to prove or disprove its germicidal powers, but during the last two months I have given it a practical test which would seem to prove its efficacy in all surgical cases.

The following cases are only a few out of many, and all of the unreported as well as the reported cases showed satisfactory results:

Case I.—Mr. J. D., on February 28, while inspecting a car, had his left hand run over by one wheel of an empty freight car, which accident necessitated the amputation of the little finger at the metacarpo phalangeal joint, and the other three in part. The thumb was lacerated, opening the phalangeal joint. The hand, both on the palmar and dorsal surfaces, was badly lacerated. None of this lacerated tissue was removed. The hand was very dirty, and was made as clean as possible by the free use of soap, ether and bichloride of mercury solution. The lacerated tissue was carefully stitched in place, the fingers amputated and a Sennine dressing applied. Notwithstanding the severe crushing which the tissues had been subjected to there only appeared a slough on the dorsal surface of the hand the size of a silver quarter. None of the wound edges showed the slightest amount of inflammatory action, nor was there ever any pus present.

Case II.—Mr. T. S., fell between two box cars and caught his left leg in his descent, producing a lacerated wound over the crest of the tibia, V shaped, which denuded the bone of its periosteum over a space the size of a silver dime; this case was dressed at the place of the accident in a dirty room in the railroad yard; the parts were made as near aseptic as could be done with a bichloride solution in a tin pail. The periosteal flap was secured by a catgut stitch, and the overlying tissues were then approximated by stitches of cat-gut and the wound dressed with a Sennine dressing without drainage, and the man sent to his room in the ambulance. Dressing on the tenth day showed the wound to be perfectly healed. There were no symptoms complained of at any time.

Case III.—Mr. J. P., suffered a compound fracture of the left leg midway between the ankle-joint and the knee. This was a fracture by direct violence caused by a rock falling on his leg. The case was not seen by me until 24 hours after the accident, upon his admission to the hospital, when I found a lacerated wound on the left leg, just to the inside of the crest of the tibia, and about six inches long, with a perfectly transverse fracture of the tibia in the bottom of the wound. Great swelling of the leg prevented me from approximating the two edges of the wound. The leg was cleansed and irrigated with a solution of bichloride of mercury. The fracture was approximated and a Sennine dressing applied and the leg put up in a plaster of paris stirrup extending above the knee. It is now twenty days since the first dressing. The temperature, which was 102° when he entered the hospital, immediately dropped to normal and has remained there since. The first change of dressing ten days ago showed a granulating surface without any suppuration and the ends of the bone buried in a mass of granulation tissue.

Case IV.—Mr. J. McG., suffered a compound fracture of the right leg midway between the ankle and knee. The wound was closed without drainage and a Sennine dressing and a plaster-of-paris stirrup applied. Dressing removed at the end of ten days showed wound perfectly closed with no inflammatory action at all. At the same time he had a compound dislocation of the left ankle with a fracture of the tibia one and one-fourth inches above the tip of the malleolus, and a fracture of the astragalus involving about three-fourths of the articular surface, which fragment had been removed before I saw the patient. The parts were thoroughly cleansed and the wound irrigated, a small drainage tube introduced and the wound stitched. A Sennine dressing was applied and a plaster of-paris stirrup applied. It is now fifteen days since the injury and there has been a small slough of the skin over the outer malleolus and a very slight amount of pus without any swelling or inflammatory condition of the parts concerned. The case was not seen by me for fourteen hours after the accident. His temperature was up to 101° and 102° for two days, and has since been normal.

The other cases in which I have used Sennine have been of varied character, and in all the results have been as satisfactory as in these which I have reported. In none of the cases have I had the slightest irritation, either of the wound or the surrounding parts, or any unsatisfactory symptoms.

Symptomatology of Intracranial Tumors.—Dr. James Taylor, in an interesting lecture published in the *Lancet*, made the following remarks regarding this subject:

As you are no doubt aware, the trilogy of symptoms which are supposed to be absolutely pathognomonic of

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this affection is represented by headache, vomiting, and optic neuritis. If you have those three present, the existence of a tumor is almost certain. The only condition I can imagine which might cause all of them and not be tumor is meningitis, usually tuberculous; but the converse is by no means true, for you may undoubtedly have a cerebral tumor with not one of those three symptoms present. To this I shall again refer presently, but in the meantime let us consider for a moment the character of those three symptoms. It is, so far, at least as our present knowledge goes, in no way localizing—*e g.*, it is notorious that the headach in cerebellar tumor is very frequently frontal, sometimes occipital, often both. Its chief characteristic is that it is paroxysmal, and another distinguishing point is that it is frequently accompained by vomiting without nausea The local tenderness in the scalp which is sometimes present in cases of tumor is not to be confounded with the headache, and, whereas the former in many cases is significant, the latter is as yet without localizing influence. The vomiting of optic neuritis may also be described as sudden and paroxysmal, as occurring without nausea, but as being frequently associated with headache. It is to be carefully regarded and treated, for a severe attack of vomiting is often the immediate precursor of death. The last of the three—optic neuritis—is the most important. Optic neuritis may be present, for example, in albuminuria and led poisoning, and, also, it is said, in anemia without tumor; but in the great majority of cases there is no doubt that it is indicative of intracranial tumor. It also is not localizing, although I believe that the optic neuritis of cerebellar tumor is, in its characters, frequently at least suggestive. There is no doubt that, in many cases of cerebellar tumor, the neuritis is particularly intense, being accompained by numerous hemorrhages, and by the peculiar fan-like arrangement of glistening white spots radiating from the macula, which is common in albuminuric retinitis. This form of neuritis I have seen much more frequently associated with cerebellar tumor than with any other variety, although, as I have said, it is not pathognomonic, only suggestive. So much for the general symptoms of tumor. I shall now briefly consider the symptoms associated with growth in different parts of the brain or cerebellum. Growths in or encroaching on the cortex are characterized more than others by localized pain on pressure over the scalp at the place corresponding to the underlying tumor. The more superficial the tumor, the more marked is this symptom. Localized convulsion—*i.e*, convulsion starting in some particular segment of a limb—although not present in all cortical tumors, is also present only in a tumor in which the cortex is involved. This convulsion may be only slight twiching, and nothing more; it may also be local cramps, which ceases before it has extended; but, on the other hand, it may begin as either of these, and gradually go on to a convulsion which effects the whole body and abolishes consciousness. After such a fit there is usually local paralysis, most marked in the part in which the convulsion started. All these statements have been illustrated in the history of the first case I showed you to-day, in which the tumor was in the cortex itself. Tumor in the white matter of the cerebrum may have the general symptoms already referred to. Its special characteristic is a slowly increasing paralysis, commencing in one limb. There may be no fits, and little or no headache. If the growth encroaches on the poterior part of the internal capsule, there may be anesthesia, and even hemianopia. The part of the body paralized will, of course depends upon the position of the tumor. It is in such tumors that not infrequently all the three usual symptoms of tumor—headache, vomiting, and optic neuritis—are absent, especially if the tumor is a slowly growing one. The distinctive symptom of tumors of the pons and medulla is the involvement of one or more of the cranial nerves, and it should be remembered that often marked evidences of paralysis may be present before any of the classical symptoms of tumor declare themselves. Especially is this true when the growth is an infiltrating one, and when, so to speak, the structures are slowly strangled, and their functions gradually abolished. In such cases it is not uncommon to have little or no headache, and optic neuritis is probably as frequently absent as present. As regards the cerebellum, there are two distinct classes of tumor in regard to their symptoms—viz., those in which reeling is present, and those in which it is not. In the former class the symptoms are, as a rule, though not invariably, much more severe, and are believed to depend upon an involvement of the middle lobe. In the latter class of cases the symptoms may not be obtrusive. Occasionally, headache and sickness, but nearly always optic neuritis, will be present, but often in such a way as not to excite suspicion, and this is a class of cases in which the diagnosis is apt to be missed. One point of interest, perhaps of importance, is the state of the knee-jerk in cerebellar cases. In some cases it is unusually brisk, chiefly in those, I believe, in which there are reeling and unsteadiness; in others it is absent, either constantly or at times, and always difficult to elicit. In two cases with such symptoms which I have examined *post-mortem* the tumor was in the lateral lobe, not affecting the middle lobe at all. Smell, also, is not uncommonly abolished in cerebellar cases. Whether this is a result of the intracranal pressure on the olfactory lobes, or whether it is due to a condition of these nerves analogous to that which abolishes the function of the optic nerves, it is not easy to say. That it is due to any involvement of the actual centre is very unlikely.

Elastic Constriction as a Hemostatic Measure.—Dr. W. H. Elliott, of Savannah, at the recent meeting of the Georgia State Medical Association, addressed the association on this subject. He said the association was familiar with Esmarch's method which consisted in putting on an elastic bandage from the periphery slowly and gradually, so as to empty the limb of

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blood, putting it on up to a point just above where the surgeon is going to operate. He then puts on a narrow elastic band at that point, so as to cut off the circulation from the limb entirely; then removing the compression bandage to go on with the operation, which he had fitly called "a bloodless operation," Esmarch was not the inventor of the bloodless operation, but surgeons were indebted to his genius for improving its technique, and for making the established methed a pecular procedure in surgery. The speaker then stated the two grave objections against the method as used by Esmarch, as advanced by Dr. Senn. The first objection was that forcible compression of the blood out of the tissue by elastic bandage was liable to send in to the surrounding tissues the elements of microbic and malignant diseases. Cancer cells may thus be scattered and dissem inated through the system, or the cells of pus or of tuberculosis might be sent abroad to do damage elsewhere. The second objection raised was that the con stricting of the limb with a tube or narrow bandage at one point was liable to do injuries, first, to the muscle, and, secondly, to the nerve. Elliott had used Esmarch's method, as modified by Dr. Senn with great satifaction. —*Med. Rec.*

Senn's modification of Esmarch's method consists in:

1. Elevation (of the limb) instead of the application of rubber bandage for the removal of the blood prior to constriction.

2. The diffusion of the elastic constriction of the limb over an annular space of not less than two inches in width, to lessen the danger of injuring important structures passing beneath the constrictor (tourniquet).

Senn also advises that constriction be made with sufficient force to interrupt at once both venous and arterial circulation.

Abdominal Tuberculosis in Childhood, and its Treatment.—Frederick Taylor (*Brit. Med. Journ.*) states that gastric tuberculosis in children is rare, but that intestinal tuberculosis is common. The latter may be associated with tubercular peritonitis, with caseation of the mesenteric glands, with general tuberculosis, or local pulmonary tuberculosis. In this last case it is often secondary to the pulmonary lesion, resulting from the swallowing of sputa. Infection from the ingestion of milk of tuberculous cows is generally accepted. Whether children of tuberculous mothers are infected through the milk or the air is a mooted question. Caseation of lymphatic and mesenteric glands has been found 100 times in 127 cases of tuberculosis in children, or in 79 per cent. Suppuration of these glands and perforation may set up general purulent peritonitis.

Tuberculous peritonitis occurs in two forms—in one the peritoneal surface is covered with miliary tubercles, and a quantity of serum is secreted so as to constitute a real ascites; in the other the tuberculous process results in the matting together and adhesion of coils of intestine, associated with enlargment of the mesenteric glands, and possibly the formation of abscesses, tuberculous ulceration of the bowel and perforation, so that adjacent coils of the intestine communicate with one another. The result of this combined matting, adhesion and glandular swelling is the formation of a more or less definite tumor, which can be felt to occupy a certain portion of the abdomen. The omentum may be similarly infiltrated, and form a band lying transversely across the abdomen at the upper part; and a similar infiltration also may affect the connective tissue about the remains of the urachus and obliterated hypogastric vessels. The tuberculous tumor in a large number of cases occupies the lower part of the abdomen, corresponding to the hypogastric and two iliac regions. Undoubtedly in most of these cases ascites is not present.

The medical treatment consists in rest, nourishing food, cod-liver oil, and inunctions of mercurial ointment on the abdomen. Of late, many cases have been treated by laparotomy with remarkable results.

In discussing the paper, Marsh remarked that from a surgical standpoint three conditions are observed:

1. Cases in which the perinoneal sac contains much free fluid.

2. Cases in which the fluid is encysted, forming movable, elastic tumors, either so soft as to resemble ovarian cysts, or so hard as to suggest sarcoma.

3. Cases in which no fluid is present, the exudate being fibrinous.

Well-authenticated cases show that in a large proportion of these cases operative interference is followed by the arrest of the tuberculous process and a return to good health. This has occurred where the abdomen has been simply opened, inspected, and immediately closed, so that the rationale of the procedure is not yet understood.

The Surgical Instruments of Antiquity.—Dr. Deneffe, of Antwerp, after twelve years of labor in collecting material, has published a most interesting treatise on ancient surgery. He has obtained between six and seven hundred specimens, including copies. Among them, says a writer in the *Medical Magazine*, are uterine and anal specula, knives, lancets, forceps or volsellæ, scissors, spatulæ, all kinds of sounds, scarificators, rugines or raspatories, probes, cauteries, caustic-holders, cannulæ, needles, curettes, hooks for the extraction of the fetus in difficult labors, saws, ointment tubes, a needle for couching (cataract), tooth forceps, urethral sounds (male and female), besides many others we have not space to mention.

With the exception of the trivalve and quadrivalve uterine specula, which can compare with the finest modern work, the instruments of those days were simple in the extreme. To carry out their ideas the early surgeons had to rely on intelligent locksmiths, who, it must be said, faithfully followed instructions, and in some cases produced instruments of exquisite finish. Usually they served a double purpose, one end of the instrument

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being used as a curette, the other end as a spatula, and so on. Sometimes knives, curettes or elevators of different sizes formed the two extremities. The various kinds of forceps were generally only used for one purpose; some, however, are supplied with an aural curette, a probe, etc., the object being to simplify and to make the surgeon's case more portable.

Most of the instruments of antiquity are bronze, which chemical analysis has shown to be composed of copper and tin, sometimes lead, and more rarely, zinc being added; in exceptional cases gold and silver have also been found. Some of them are made entirely of copper, as the ancients know how to temper this metal by heating it to redness and then rapidly plunging it into cold water. Silver instruments are rare, but silver was used in some instances to damascene those made of bronze. Fragments only of iron instruments have come down to us. According to Lepsius, the Egyptians employed iron 4,000, and the Greeks 1,450 years before Christ. Dr. Deneffe points out, too, that Homer frequently refers to this metal. There are some specimens of knives with iron blades and bronze handles; also an iron hook in a bronze handle for extracting the fetus from the womb. As iron is perishable it cannot be stated positively to what extent it was used.

According to the author, the instruments found at Herculaneum and Pompeii (first century) lack the finish of those discovered in France, Belgium, and near the Rhine, and which date from the second and third centuries. He does not think, however, that the latter were made in the countries where they were found. It is probable they were imported into these Roman colonies by surgeons, who supplied themselves in Italy before starting.

A remarkable thing about all these instruments is that they are made entirely of metal; woods, ivory, or shell never being used.—*Med. Record.*

MEDICINE.

Dietetic Treatment of Phthisis.—Some of the most important rules which should govern the dietetic treatment of phthisis may be formulated as follows:

1. Never take cough mixtures if they can possibly be avoided.

2. Food should be taken at least six times in the twenty-four hours; light luncheons between the meals and on retiring.

3. Never eat when suffering from bodily or mental fatigue or nervous excitement.

4. Take a nap, or at least, lie down for twenty minutes, before the mid day and evening meals.

5. Take only a small amount of fluid with the meals.

6. The starches and sugars should be avoided, as also the indigestible articles of diet.

7. As far as possible, each meal should consist of articles requiring about the same time to digest.

8. Only eat as much as can be easily and fully digested in the time allowed.

9. As long as possible, systematic exercise should be undergone.

10. The food must be nicely prepared and daintily served; made inviting in every way.

The following may serve as a sample of a diet sheet in the early stages of phthisis:

On Awakening.—Eight ounces of equal parts of hot milk and seltzer, taken slowly through half an hour.

Breakfast.—Oatmeal or cracked wheat, with a little sugar and an abundance of cream, rare steak, or loin chops with fat; soft boiled or poached egg, cream toast, half pint of milk, small cup of coffee.

Lunch, 10 A.M.—Half pint of milk or small tea-cup of squeezed beef-juice with stale bread. 12 noon: Rest or sleep.

Mid-day Meal, 12:30.—Fish, broiled or stewed chicken, scraped meat-ball, stale bread, and plenty of butter, baked apples and cream, two glasses of milk.

Lunch, 4 P.M.—Bottle kumyss raw scraped-beef sandwich, or goblet of milk. 5:30 P.M.: Rest or sleep.

Dinner, 6 P M.—Substantial meat or fish soup; rare roast beef or mutton, game, sliced stale bread, spinach, cauliflower, fresh vegetables in season (sparingly.)—H. P. Loomis, M.D., in N. Y. *Med. Record.*

Treatment of Puerperal Convulsions by Injections of Salt Solution.—The above mode of treatment of puerperal eclampsia is the one now adopted in the lying-in wards of the Lariboisiere Hospital by Dr. Porak, physician-accoucheur of that institution (*Lancet*). The salt injections are said to act beneficially by mechanically diluting the toxines in the blood and by favoring their elimination through the kidneys, the secretion of which the injections re establish or increase. The quantity and quality of urine passed in these cases is, in fact, of great prognostic importance. When the urine is abundant and limpid the toxemia is mild, and the physician may trust to symptomatic treatment by means of chloroform and chloral administered simultaneously. (Six successful cases of this kind are cited in the recent thesis by Dr. Bernheim, one of Dr. Porak's pupils) In every case, however, where the urine is either completely suppressed or is scanty and dark colored, recourse must be had to salt water hypodermics, either singly or associated with venesection. In Dr. Porak's wards the modus operandi is as follows:

The solution employed for each injection is one liter of sterilized water, to which have been added from seven to seven and a half grams of chloride of sodium. This is poured into a hand-spray apparatus of which the longer tube ends in a hollow needle; or a syphon apparatus may be employed. The solution must be maintained at a temperature of from 37.5° to 38° C. The skin of one of the buttocks having been carefully disinfected, the needs is plunged into the areolar tissue and the salt solution is introduced. The parts near the needle quickly become indurated and the skin becomes

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pale. Gentle massage is practiced to favor absorption. In this way one liter is injected, the operation occupying twenty minutes. Should distension become exaggerated before the injection is completed, the residue of the liquid is introduced into the other buttock. This novel treatment has been tried on eight patients, in all of whom the urine was scanty. Seven were eclamptic and the eighth suffered from dyspneic form of uremia. In each instance one or two salt injections were the means of re establishing the urinary flow and of suppressing more or less promptly the convulsions and the dyspnea in the uremic woman. Six patients recovered. Of the two women who died, one was admitted in a moribund state, and the other, in whom the attacks had ceased and consciousness had returned, died at home, where her husband had obstinately insisted on removing her.

Treatment of Tuberculosis by Applications of Creosote or Guaiacol to the Skin.—Nearly two years ago, M. Saillet, of Paris, called attention (*Bulletin General de Therapeutique; Modern Medicine*) to the fact that when applied to the skin in a solution of alcohol, creosote and guaiacol are absorbed in quantities sufficient to render easy their detection in the urine. The same author also presented a new method of determining the presence of these substances in the urine, which he claims to be superior to any other. The alcoholic preparations of creosote or guaiacol is simply rubbed on the skin, or is applied with cheese-cloth covered with a protection of some sort. Care must be taken that the application is not made to too large a surface of the skin at one time.

Casasovici has more recently recommended gaiacol in a solution of tincture of iodine, five grains of gaiacol to twenty five of tincture of iodine. Dr. Saillet insists that gaiacol is much more effective than creosote. The remedy must be used in small doses, increasing the amount progressively, and watching the urine for the first appearance of the drug, which indicates saturation of the system.

Recently Commont has reported a case of acute tuberculosis, involving not only the lungs but the pericardium. The sputum contained bacilli, the urine was albuminous, the meninges of the brain were also affected, indicated by inequality of the pupils, the patient had several slight hemorrhages, and presented an induration at the right apex. The temperature was 102°. The patient was evidently suffering from acute tuberculosis. Fifty centigrams (seven and one-half grains) of gaiacol dissolved in alcohol was applied in the manner described. After the third application the temperature fell, and did not rise again. The application was renewed three times more, however, to insure a cure. The patient improved rapidly, and within a short time gained nearly seven pounds in weight, and all the pulmonary and cerebral symptoms improved. The bacilli also disappeared from the sputa. The patient is now enjoying excellent health. It must be remembered that the application should not be made to the whole surface of the skin at one time, as thereby poisoning may be induced.

Whoopimg Cough and its Treatment by Bromoform.—Pellicer (*Revist. Bal. de Ciencias Med.; Annals of Gyn. and Ped.*) discusses the treatment of whooping-cough, and concludes that of all remedies bromoform is the most serviceable. It is a colorless liquid obtained by the action of bromine on alcohol, and when administered to animals, hypodermically or by inhalation, produces narcosis, without affecting the circulation or respiration. Stepp, of Nuremberg, first employed it in whooping cough. The dose is one drop for each year of age of the patient four times a day. If the paroxysms are not reduced by the third day, the dose should be gradually increased. On one occasion the auther was obliged to administer forty-eight drops daily to a child of two years, and the only ill effect observed was general erythema. There was no diarrhea, and the respiration and pulse were not quickened. Failure with bromoform, the author concludes, results from not increasing the initial dose. Bromoform diminished the number and duration of the paroxysms; under its influence vomiting ceases and the appetite returns. Under this treatment the duration of this disease is only two or three weeks, and in many cases much less.

Indicanuria in Infants.—Djouritch (*Rev. Men. des. Mal. de l' Enfance: Annals of Gyn. and Ped.*) from an exhaustive study of the subject concludes as follows:

1. Indican exists in normal urine, but in such small quantity that one can consider indicanuria pathological, especially in children in whom the diet is much less nitrogenous than in adults.

2. Indican being a derivative of indol, indicanuria will be particularly marked in maladies associated with a hyperproduction of indol.

3. This hyperproduction shows itself especially in diseases of the digestive tract, both acute and chronic.

4. It is also observed in certain acute diseases, such as typhoid fever, pneumonia, bronchitis, chorea gravior and in diphtheria at the height of the disease.

5. It is constantly found in tuberculosis; such a close relation seems to exist between indicanuria and tuberculosis that the presence of the former might materially aid in the diagnosis of obscure cases of the latter.

6. The occurrence of indicanuria in cases of tuberculosis unassociated with digestive disturbance is difficult to explain, although the impairment of the general nutrition may in part account for it.

The Relation of Phlegmasia Alba Dolens in Typhoid Fever to Typhoid-Bacilli.—Haushalter (*Rev. Med. de l' Est; Rev. Int. de Bibliographie,*) notes that the point of departure of various thrombosis is to be found in an alteration of the lining membrane of the vessel, and that in some disease this

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alteration may be due to microorganisms constituting a secondary infection (*Med. News*). A case is reported that goes to show that phlegmasia may be due directly to the action of typhoid-bacilli. A girl, twenty-one years old, died in the sixth week of an attack of typhoid fever and upon post-mortem examination a fibrinous clot was found in the left crural vein, extending from the apex of Scarpa's triangle to the iliac vein. Bacteriologic study of the walls of the vein and of the clot, as well as of the liver and spleen (which contained two small abscesses), disclosed the presence exclusively of typhoid-bacilli. The phlegmasia was thus the seat of an unusual localization of the bacilli, either from the formation of a bacillary embolus at the time of resolution of rose-spots or from infection of the walls of the vein by direct contact with an adjecent lymphatic gland, itself comtaminated by the backward stream from the lymphatic glands of the abdomen.

NOTES : AND : ITEMS

Dr. Nicholas Senn, of Chicago, will sail for Europe on the 20th of June. We understand that the reason for this trip is twofold, first to get away from his arduous professional duties during the Summer months, and in the belief also that a sea voyage may prove beneficial to mind and body. But the most important reason is that he is preparing a Text-book on Tumors, and he believes that his mind will thus be freed from all other professional cares during his voyage, and that he will be able to concentrate it wholly upon the subject of his new book.

There is no topic of surgery occupying closer attention from surgical pathologists, all over the world, at the present time, than the study of tumors, and as there has been no standard work hitherto published on the subject, the forthcoming book, from such a man as Senn, will be hailed with the greatest satisfaction, and studied, no doubt, with avidity and profit by the general masses of the profession everywhere. The work will be an exhaustive one, and there is no other man more capable of treating the subject in its most simple and comprehensive forms than he is.

Dr. G. W. Broome of St. Louis will accompany Dr. Senn upon this trip.

Phenol-Elimination in Disease.—As a result of a clinical and analytic investigation into the elimination of phenol in disease conducted at the clinic of v. Jaksch, at Prague, Strasser (*Zeitschrift f. klin. Med.; Med. News*) has reached conclusions that agree essentially with those arrived at by previous investigators, the amount found, however, being greater. Thus, an increase was found in the course of acute infectious disease (*e. g.*, in the first and second week of typhoid fever, pleuro-pneumonia, pneumonia in the stage of resolution); also in all cases of local suppuration or gangrene (*e g.*, pyo pneumothorax, putrid bronchitis, gangrene, peritonitis); finally in diabetes mellitus. Normal amounts were found in cases of cystitis, leukemia, and typhoid fever eight days after defervescence; diminished amounts in cases of chronic anemia, of typhoid fever during the period of defervescence, of intestinal obstruction attended with persistent vomiting, of acute phosphorus-poisoning, and of hypertrophic cirrhosis of the liver. The elimination of indican, as well as the variations in the relation between the ether sulphuric acids and the preformed acids, showed no correspondence with the variation in the amounts of phenol.

The Treatment of Carcinoma With Thallin Periodid. — Mortimer Granville (*Lancet*), maintains the utility of periodotetrahydroparamethyloxychinolin (thallin periodid) in the treatment of carcinoma. He has given the drug in doses of four grains, in pill form, with a grain of musk, or one twentieth of a grain of pilocarpin hydrochlorate, if the skin was dry and inactive, every second or third hour, and nothing else. One of the earlier signs of improvements noted has been a better color of the skin. In some instances there was darkening of the urine, but in none disturbance of the stomach or debility. It is theorized that the effect produced is a destruction of the locally proliferating and the wandering leukocytes.

The Pope Tries Hydrotherapy. — Father Kneipp, the German priest and preacher of hydrotherapy, was consulted, on the occasion of a recent visit to Rome, by Leo XIII. for the relief of certain ailments, due to advanced age, from which his Holiness is suffering. The Pope was advised to apply cold compress to his knees and to the back of his neck, and did so with rather disastrous result. He caught quite a severe cold, and both knees became so swollen that he was forced to call upon his own physican to combat the consequences of the experiment. Monsignor Kneipp is not thought so much of in the Vatican as he was.

New Medical Societies.—A new medical society has lately been organized under the name of "The St. Louis Clinical Society" of which the following have been elected as officers for the ensuing year:

President—Dr. A. H. Ohmann-Dumesnil.
Vice President—Dr. R. C. Blackmor.
Secretary—Dr. L. A. Turnbull.
Assistant Secretary—Dr. S. D. Martin, Jr.
Treasurer—Dr. C. R. Lightner.

A charter has been granted to a society which calls itself, "The St. Louis Association of Pathologists and Physicians" and we have been informed that the organization of the society is in active progress. The names of Drs. C. Barck, H. W. Loeb, I. N. Love and A. C. Bernays have been mentioned in connection with the formation of this society.

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VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

A Case of Congenital Tuberculosis.

Observations made in this direction have demonstrated the fact that congenital tuberculosis is found more frequently than is generally suspected. A case of this kind was recently reported in the *Zeitschrift fuer Fleisch und Milch-Hygiene*, III, 7, the subject being a female calf eight days old, of a lowland breed and of a parentage the dam of which coughed some but seemed otherwise free from disease, while the sire was said to have been healthy.

The post mortem examination revealed a general distribution of the disease throughout the system, the muscles being very moist and of a pale yellowish color, serous membranes shiny; tubercles from the size of a pinhead to that of a pea were found in the lungs, liver and spleen, some of which were caseous throughout, others with the calcareous material in the center only. Abnormal alterations extended to both tissues and glands. The bronchial and mediastinal lymph glands were found enlarged to ten times their natural size and covered with miliary tubercles throughout their whole extent. The portal lymph-gland enlarged to nearly the size of the liver itself. Further investigation of a section of gland revealed an hypertrophied condition of tissue in which were imbedded numerous caseous foci. The same alterations in a less degree were found in the caudal and cervical lymph glands, the lumbar glands, the right iliac gland, the lymph glands of the fold of the right flank and the right supra-mammary lymph glands. The pleura, peritoneum, kidneys, bones and joints were unaffected.

Smear preparations of the cheesy lymph failed to show tubercle bacilli. In the fresh embolic foci of the lungs and liver, however, these were revealed in great numbers. From the conditions described, it must be assumed that the fetus first became infected through the umbilical vein, infecting first the portal lymph gland, the second infection giving rise to the other disease centers by way either of the umbilical vein, or by becoming generalized from diseased portal gland.

Aneurism of the Aorta.

Aneurism of the main trunk of the aorta is less frequent in the domestic animals than in man, on account of the spiral course of the aortic arch in the latter. However, a few interesting instances have been observed in the lower animals.

Bleich observed an aneurism of the abdominal aorta in an eight-year-old horse, which had contracted inflammatory adhesions with the stomach and liver and terminated in hemorrhage into the stomach. No characteristic symptoms were observed during life, excepting frequent attacks of coughing, accompanied sometimes with a small, at times with a copious discharge of blood, loss of appetite, great weakness and emaciation. The lungs contained hemorrhagic nodes.

Schmidt mentions an aneurism and rupture of the aorta in the horse. He was able to eat from the ground only with evident pain, though the movements of the head and neck were normal; the gait of the hind extremities was stiff and straddling; the pulse beats 60 per minute; the heart beats were synchronous with a humming "brewing" sound, which was most distinct on a level with the vertebral column; animal was debilitated and emaciated.

Post mortem—The pleural cavities were filled with coagulated blood; the posterior aorta at the point where it reaches the dorsal vertebræ was the seat of a sacular dilatation of the size of a man's head, and on its inferior surface was an irregular laceration, 6 cm. long; the aortic walls were thin, fragile, and covered on the inside with red granulations. Nocard, Godfrin and Skinner mention cases. In Nocard's case the origin of the posterior aorta and the pulmonary artery in a dog ten weeks old was the seat of an aneurism with secondary cardiac hypertrophy. He gradually emaciated and coughed continually. In two foals the aneurism was discovered through the rectum by digital examination. An eighteen-year-old horse had an aneurism of the carotid artery opposite to the sixth cervical vertebra; death from rupture.—*Veterinary Journal.*

A Case of Vomition in the Horse, With Recovery.

In March of this year, about 1 o'clock one morning, I was called to see a bay gelding, 9 years old, 16 hands high, 1200 lbs. in weight, showing the following symptoms: great depression, pinched appearance of face, indicating great suffering, high temperature, injected mucous membranes, and increased pulse and respiration.

The animal was continually lying down and getting up. In addition to these symptoms there was copious vomiting of food, consisting of hay and grain (cornmeal, bran and oats), the major portion of which was ejected through the nostrils.

A drench, consisting of ½ oz. ext. cannab. indica fid., 5 dr. aloes barb. in 1 pt. of warm water, was administered, which was, however, shortly afterward expelled during a fresh attack of vomiting. Morph. sulph. (grs. x) was then hypodermically administered, which gave some relief without, however, appreciably affecting the

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vomiting. The animal was then placed in a box stall, and when I saw him again at 6 P.M., he was much improved, vomiting had ceased, and the mucous membranes had returned to almost normal appearance. He was still somewhat dejected, but appetite had partially returned.

In three days the animal was normal and doing his regular amount of work as a cart-horse.

In May, and also in October, the animal was again affected in a similar manner, and, as in the preceding instances, recovered in the course of three or four days. At present, the animal is absolutely normal. I could not attribute the cause of these attacks to anything but the large amount of food given, which consisted of one peck of equal portions of corn-meal, oats, and bran, given three times daily, with as much hay as the animal chose to eat.

I selected this case from my note-book, as it illustrates many interesting facts in connection with vomition in the horse, which, unfortunately, are often overlooked by the veterinarian.

It is generally taught, and is the prevalent idea among the large majority of veterinarians, that vomition occurring in the horse is indicative of rupture in the stomach.

Vomition, as it occurs in all other animals with which the veterinarian has to do, is not possible in the soliped.

In the first place, the stomach is of comparatively small size, the two sphincters are in close proximity, the cardia is in constant tonic contraction, while the mucous membrane is arranged around its orifice in folds.

Further, the oblique position of the esophagus at its cardiac orifice, its small caliber, and the distance of the stomach from the abdominal walls, all tend, in connection with the aforementioned circumstances, to make physiological vomiting in the horse an impossibility.

In my experience, and as the veterinary records show, true vomition, unless connected with rupture of the stomach, is a rare occurrence. Cases are sometimes seen in which ejection of food through the mouth and nostrils is not connected with gastric abnormality of any kind. I refer to the ejection of food as a result of accumulation of food, in dilatation of the esophagus, or jabot. It is usually not a difficult matter to differentiate by ordinary physical methods, between the vomition of jabot and true vomition.

However, the vomiting of jabot simulates in many respects true vomition. In such instances, the history and general condition of the animal may serve to make a definite diagnosis possible. In the absence of a clear history, and where great depression supervenes, we must have recourse to other methods. One of the most simple methods, to prove whether the ejected mass be from the stomach, is to determine its reaction either by means of litmus paper or one of the other tests. If for any reason these means should prove unsatisfactory, the ejected mass may be rapidly examined for free hydrochloric acid and peptones.

These, in connection with other methods, well known to the veterinarian, should make a diagnosis of vomition as a result of esophageal dilatation an easy matter. If we now pass to the subject of true gastric vomition in the horse, we find various conditions and circumstances which may give rise to this deviation from the normal. Colic resulting from overfeeding is sometimes accompanied by vomition, as a result of relaxation of the cardia. Further, gastric ulceration, calculus, peritonitis, and mechanical obstructions of various kinds, may produce the same effects.

From the above it is evident that true gastric vomition may result from any cause producing over distention or relaxation of the cardia, as has also been observed by Toegel.

As regards the symptoms of rupture of the stomach, great diversity of opinion existed at one time, and still exists among many veterinarians. Many think, as already indicated, that vomition is not the cause, but the result of rupture of stomach. Ordinarily, when rupture of the stomach is spoken of, it is interpreted as meaning a complete separation of the three coats of that organ.

It requires no special veterinary training to comprehend that vomition is a physical impossibility when true rupture of the coats supervenes. Yet, as has already been mentioned, many believe that this is a possibility. On the other hand, it is clear, as Dickerhoff also acknowledges, that true vomition may occur where the muscularis has suffered complete separation, provided the mucosa remains intact.

In such instances, vomition results from antiperistalic movement and relaxation of the cardia, and persists as long as the mucosa withstands the pressure of the food contained in the stomach. It is obviously admissible only to speak of a vomition resulting from a partial rupture of the coats of the stomach, and not of a vomition resulting from complete gastric rupture, which cannot take place, as already indicated. It is evident that a correct diagnosis, between simple gastric vomition and vomition resulting from a partial rupture of the stomach, offers great difficulties in the early stages of the sickness It can only be determined by carefully watching the progress of the disease, and it was by this method that I was enabled to form a definite opinion of the vomiting in the case which came under my notice. The above comprises the more salient points in the diagnosis of vomition in solipeds, and I believe if the suggestions offered in this paper are adhered to, further confusion in this matter will be obviated.—Albert Fricke Schreiber, V.M.D., Veterinarian for Meat and Cattle Inspection, Department Public Safety, Philadelphia, in *Veterinary Magazine*.

An Artifical Horseback Ride.—An ingenious Londoner has invented a saddle arrangement which gives to the person astride it all the motions of a horseback ride. By varying the adjustment, one gets a trot, a gallop, or a walk.

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RAILROAD NEWS

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

Announcement.—American Medical Association Convention to be Held at San Francisco, Beginning June 5, 1894.

The official train of the Association will leave Chicago at 5 P.M., on Monday, May 28, via the Santa Fe Route. It will be made up of Vestibuled Pullman Palace Sleeping Cars. At Kansas City a stop will be made of sufficient length to enable passengers to make short trips of inspection over the city. The train will arrive at Colorado Springs on the morning of the 30th, where a stop of several hours will be made. Denver will be reached at about 4 o'clock in the afternoon. At that point the party will be given a reception by the Colorado Medical Society. The evening and most of the night will be spent in Denver. At an early hour on May 31 the train will depart from Denver for the purpose of making a daylight tour through the great Colorado resorts, and when the passengers awake that morning it will be to find themselves in the heart of Rocky Mountain scenery. This ride includes Colorado Springs, Manitou, Cascade Canon, Ute Park, Green Mountain Falls and Woodland Park—all clustered around the base of Pike's Peak—Buena Vista, Leadville, Hagerman Pass, Red Rock Canon and Glenwood Springs. The last named point will be reached in the middle of the afternoon on the 31st and a stop will be made until 10:30 P.M., same day. At 12:30 P.M. the following day, June 1, the train will reach Salt Lake City, where a stop will be made until 11:45 P.M. of the same day. The party will reach San Francisco June 3, at 9:45 A.M.

ONE OR MORE SPECIAL PULLMANS, AS MAY BE NECESSARY, WILL ALSO BE RUN FROM ST. LOUIS, 8:30 P.M., MAY 28, CONNECTING WITH THE TRAIN FROM CHICAGO AT BURRTON, KAN.

The foregoing is an approximate schedule and is announced at this time for the benefit of those who desire to know as early as possible what provision has been made for their comfort and pleasure en route to the Convention.

The Pullman cars will be at the disposal of the patrons of this train from the time they leave Chicago and St. Louis until they reach San Francisco, and the cost for a double berth will be from Chicago, $15.50; from St. Louis, $14.50, and from Kansas City, $13.00.

Between Chicago and Kansas City meals will be served on the superb dining cars of the Santa Fe Route at the rate of $1.00 each. From St. Louis and Kansas City to Glenwood Springs they will be furnished at the eating houses of the Company, which are nowhere excelled. The cost of meals at Santa Fe eating houses is seventy-five cents each.

The cost of railroad tickets for this occasion will be $85.50 from Chicago, 77.50 from St. Louis and $65,50 from Kansas City. The tickets expire July 15 and carry a transit limit of fifteen days in each direction. Passengers will be given choice of any authorized route returning. Holders of tickets returning via the Santa Fe Route by way of Albuquerque, will be allowed fifteen days east of that point in which to reach Chicago or St. Louis, or intermediate points. Those who desire to return via Portland will be charged $15.00 over the rate above mentioned.

The route indicated in the foregoing itinerary has been described at length from the standpoint of the tourist in a profusely illustrated book of one hundred and fifty pages, entitled "To California and Back." This book will be sent free of charge to any person who contemplates attending the Convention in San Francisco. Patrons are invited to use—returning—our route through Southern California, Arizona and New Mexico, which is designated as the Grand Canon Route, for the reason that in addition to the numerous scenes of interest traversed by this line, it leads the traveler through that portion of Arizona in which the Grand Canon of the Colorado River is accessible. This tremendous gorge has been partially described in an illustrated book devoted to its wonders, entitled "The Grand Canon of the Colorado River," which also will be furnished free on application.

The advantages of an official route upon an occasion of this character lie in the fact that the journey can be made more enjoyably and more profitably by a large number of persons of congenial tastes, bound together by the ties of a common profession and experience. The advantages of selecting the Santa Fe as the official route is due to the fact that it is the Greatest Railroad in the World, with nearly ten thousand miles of its own tracks in fourteen states and territories; and it uses only the best equipment; that the quickness, safety and comfort of its train service are unequaled; that the interest of the scenes along its line is unflagging, and that special privileges will be accorded the patrons of this particular train.

A list of the principal agents of the Santa Fe Route throughout the Middle and Eastern States will be found below. Apply to the nearest for copies of the descriptive books above referred to and make your Pullman reservations through him well in advance of the time of starting.

Atchison, Kan., corner Third and Main Streets, J. E. Watson, passenger and ticket agent.

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Boston, Mass., 332 Washington street, S. W. Manning, general New England agent; O. M. Chandler, traveling agent; Herbert A. Clay, traveling agent; Wm. T. Clarkson, traveling agent.

Buffalo, N. Y., 68 Exchange street, J. N. Bastedo, passenger agent.

Chattanoogo, Tenn., 111 Ninth street, E. F. Sisson, Southern passenger agent.

Chicago, Ill., 212 Clark street, J. M. Connell, City passenger and ticket agent; Monadnock building, H. N. Butterfield, Northern passenger agent; Monadnock building, C. A. Hartwell, traveling passenger agent.

Cincinnati, Ohio, 169 Walnut street, Geo. T. Gunnip, passenger agent; Robert E. Breder, traveling passenger agent.

Cleveland, Ohio, 213 Bank street, F. T. Hendry, passenger agent.

Colorado Springs, Colo., C. C. Hoyt, city ticket agent.

Dallas, Texas, Grand Windsor Hotel, W. G. Wilkins, passenger agent; W. A. Tuley, traveling passenger agent.

Denver, Colo., Boston Block, H. Collbran, general agent; 1700 Lawrence street, J. P. Hall, Colorado passenger agent; 1700 Lawrence street, Jno. J. Slavin, traveling passenger agent.

Des Moines, Iowa, Savery House, S. M. Osgood, general agent; J. C. Dietz, traveling agent.

Detroit, Mich., 63 Griswold street, G. E. Gilman, Michigan passenger agent.

El Paso, Texas, Wells, Fargo & Co's building, C. H. Morehouse, division freight and passenger agent; C. C. Carpenter, traveling agent; W. R. Browne, city ticket agent.

Fort Worth, Texas, 403 Main street, W. Doherty, passen- agent.

Galveston, Texas, 224 Tremont street, Max Naumann, passenger agent.

Houston, Texas, 208 Main street, R. D. Field, passenger agent.

Kansas City, Mo., 1050 Union avenue and norteast corner Tenth and Main streets, Geo. W. Hagenbuch, Passenger and ticket agent; 1050 Union avenue, Chas. L. Seagraves, traveling passenger agent; W. J. Janney, traveling passenger agent.

Leavenworth, Kan., 320 Delaware street, Geo. J. Chaplin, general agent.

Minneapolis, Minn., 515 Guaranty Loan building, E. Burdick, general agent.

Montreal, Que., 136 St. James street, D. W. Hatch, traveling agent.

New York City, 161 Broadway, Chas. D. Simonson, general Eastern agent; E. F. Burnett, Eastern passenger agent, Chas. A. Marsh, traveling passenger agent.

Omaha, Neb., 1316 Farnum street, E. L. Palmer, passenger agent.

Peoria, Ill., 132 North Adams street, Geo. C. Chambers, passenger agent.

Philadelphia, Pa., 29 South Sixth street, Otto Faas, traveling passenger agent.

Pittsburgh, Pa., 303 Bank of Commerce building, Wm. F. Boyle, traveling passenger agent

Pueblo, Colo., 237 North Union Avenue., F. B. Seawright, City Ticket Agent.

St. Joseph, Mo., Third and Francis streets, W. G. Young, City P. & T. A.

St. Louis, Mo., 101 North Broadway, S. A. Hughes, City P. & T. A.; F. J. Deicke, T. P. A.; L. Rausch, T. P. A.

Wichita, Kan., 158 North Main street, W. D. Murdock, District Passenger Agent.

D. WICHART,
GENERAL PASSENGER AG'T,
ST. L. & S. F. R. R.,
ST. LOUIS, MO.

GEO. T. NICHOLSON,
GENERAL PASSENGER AG'T,
A. T. & S. F. R. R.,
TOPEKA, KAN.

BALTIMORE AND OHIO
Southwestern R'y
(Baltimore & Ohio Southwestern R. R. Ohio & Mississippi R'y.)

Medical Congress.

The Congress of American Physicians and Surgeons which convenes in Washington, D. C., May 29 to June 1, 1894, will doubtless attract a great many physicians to the National Capitol. Those who do not travel via the Baltimore & Ohio Southwestern will miss one of the most delightful trips on the Continent.

Washington is itself a charming place to visit at this time of the year. It is the center of the Republic in effect, though perhaps not in fact and every one is anxious to visit it.

There is also a charming way to get there. That is over the Baltimore & Ohio Southwestern. This line has, to offer beside, the beauties of a trip over its lines, with the comforts of Pullman Dining, Parlor and Drawing Room Sleeping Cars. Special low rates made for this occasion.

It is the only Pullman Route to Washington and makes better time than any of its competitors. If you are going it is only necessary to ask any representative of the line to have the above fully verified. The St. Louis office is at 105 North Broadway. An illustrated "Guide to Washington" with map of the city will be given to every passenger via the B. & O. S. W. (formerly O. & M(. Further particulars may be had from O. P. McCarty, General Passenger Agent, St. Louis, Mo.

American Medical Association—San Francisco Meeting.

Parties anticipating attending the above meeting should address Jas. J. Aglar, General Agent, Union Pacific Railway, 213 N. 4th St., St. Louis, and procure copies of the following illustrated publication descriptive of the World's Pictorial Route across the Continent; the same will be mailed free on application.

Sights and Scenes Colorado.
" " " Utah.
" " " Idaho and Montana.
" " " Oregon and Washington.
" " " California.

Special Notice.—San Francisco Meeting, June 5 to 8, 1894.

THE UNION PACIFIC SYSTEM having been selected as the SOUTHERN AND WESTERN OFFICIAL ROUTE, this road has arranged for two Spacial Trains, one to leave St. Louis Saturday, May 26, and Kansas City, Sunday, May 27, arriving at San Francisco Monday, June 4. It is proposed to make this the grandest trip ever made across the continent. The Special Train will be kept with the party on the entire trip and will be used in making side trips in Colorado and Utah during the stay in those States. During their stay in the various cities enroute the Excursionists will be quartered at the very best hotels.

In addition to this train the Union Pacific will run Special Pullman Sleepers on certain regular trains for the exclusive use of Physicians and their friends who desire to go through direct and in the shortest possible time, which, by this route, can be made in three and a half days from St. Louis.

Rates by this route will be $65.50 from Kansas City to San Francisco and return, with corresponding low rates from all Southern and Eastern points. Free side trips to leading points in Colorado and Utah will be given parties holding tickets at these rates.

Parties going via the Union Pacific will thus have choice of two plans, one the Grand Tour of ten days, stopping at hotels in principal points, leaving St. Louis, May 26, all expenses of the trip covered by one ticket, or in Special Pullman Sleepers on regular trains at rates named above, each party paying their own expenses en route; same stop-overs and side trips allowed if desired as are given on the Special Train.

For full particulars, Rates, Illustrated Pamphlets, Sleeping Car Accommodations, etc., address, Jas. F. Aglar, General Agent, Union Pacific Ry., 203 N. 4th Street, St. Louis.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,33[illegible]

MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXIX. ST. LOUIS, MAY 26, 1894. NO. 21.

ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

VII—The Uses and Relative Values of Antiseptics (Cont.)

Salophen. — Also termed *Acetyl-para-amido-salol.* The chemical formula is $C_6H_4.OH.COOC_6H_4.HCOCH_3$. It is a new synthetic product, the first stage of the manufacture of which is the mixture of equal parts of para-nitro-phenol and salicylic acid. Then follow a series of more or less complicated changes, which result in the ultimate formation of the completed product, which occurs in small, thin, lamellar crystals which are odorless, tasteless and have a neutral reaction upon litmus. Salophen is freely soluble in alkalies, ether and alcohol, but practically insoluble in water

This substance is proposed as a substitute for salol. The gastric juice has no effect upon it, but when it comes in contact with the alkaline pancreatic secretion it is broken up into salicylic acid and acetyl para amido-phenol, which latter is eliminated by the urine and the feces. W. H. Flint, of New York thinks the substance of special value in acute rheumatic arthritis; indeed Hitschmann claims that it is almost a specific in such condition. These results and conclusions were also reached by Hare, E. Koch, Oswald and Hardenbergh. E. Koch in experiments upon the value of salophen says that its antiseptic action is trifling, but that its chief field is in nervous affections of various forms, such as neuralgia, hemicrania, cephalagia, sciatica, neuritis, pleurodynia, etc. The remedy when used internally is exhibited in doses of from one to one and a half drachms daily.

Sanitas.—This substance, which is used as an external disinfecting fluid, contains of an aqueous solution of turpentine, which has become oxidized by the oxygen of atmospheric air; it contains camphor, thymol, hydrogen peroxid and a small amount of camphoric acid, the result of such oxidation. It is prepared by Kingzett by passing air and steam through oil of turpentine. It is said to be a good antiseptic and to be free from poisonous properties; it is used chiefly as a domestic disinfectant. To judge by the formula one would hardly give the preparation high germicidal power however. Its use seems on the decline at the present writing.

Saprol.—Also termed "Disinfection Oil." This substance is a dark and brownish oily mixture, consisting chiefly of crude cresols in an excess of those liquid hydrocarbons of the marsh gas series which are obtained in the refining of petroleum.

Laser found that the application of one per cent. of saprol was sufficient to sterilize urine and feces containing typhoid bacilli, or cholera spirilla or other similar germs. It is cheap and of some value as a disinfectant, but of course has no place in medicine proper except as a general disinfectant. It is exceedingly inflammable; this property must be remembered or danger may result from disregard of its combustibility—the menstrua being closely related to benzine, we should naturally expect a high degree of combustibility.

Sennine.—This substance occurs in the form of a white powder with a pleasant faintly aromatic odor and an agreeable sweetish taste; it is readily soluble in water and most of the ordinary solvents. The product is a new one and the result of American enterprise, and is certainly worthy of commendation. Why should we import not only our ideas but even our remedial agents, when American brains and American hands are just as able and competent as those of foreign nationalities? Sennine is composed of phenol and boric acid, and possesses all of the virtues and none of the disadvantages of those substances (see carbolic acid and boracic acid). Both of its ingredients are substances of more than recognized virtue and merit. Lister has very recently declared carbolic acid superior to all other antiseptics and germicides, moreover, he places boric acid nearly as high in the scale of efficiency. In this product, "Sennine," the odor of carbolic acid has been entirely removed; a powder resulting which is not only free from objectionable odor

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and irritating properties, but is also comparatively non-toxic; it is readily applied in substance as a dusting powder or as a dry dressing—so much in favor at the present time—and is dispensed in a most convenient metal dusting box for this purpose. may also be applied in ointment, or, where moist dressings are desired, in solution; a five per cent. aqueous solution being sufficiently strong for general use. Its field of application and usefulness is quite extended; it has been recommended not only in general surgery, obstetrics and gynecology, but in general medicine as well. Reports indicate that it has been used very effectively in numerous conditions, such as otorrhea, otitis, bromidrosis, gangrene, eczemata of various kinds, herpes, laryngitis, thrush, diphtheria and various infectious inflammatory conditions of the naso-pharynx, vaginitis, chancroid, dysentery, erythema, catarrh, typhoid fever, in dermatology and dental surgery; in short, wherever a good, efficient and thoroughly reliable antiseptic can be of any value whatever. It has been used internally in fermentative dyspepsia, in cholera and infectious gastro-intestinal diseases, in gonorrhea, typhoid fever, etc. When administered internally, it is usually given in doses of one to five grains.

Silver Nitrate.—$AgNO_3$. Also called *Argentic nitrate* and "*Lunar Caustic*"—the latter term being a relic of the days of alchemy, when the element silver was known by the name and zodiacal sign of Luna. It is a crystalline substance, soluble in water and possessing the property, in the presence of moisture and heat, of staining organic matter black—this property is made use of in the so-called indelible inks.

This silver salt has marked antiseptic properties. Miquel and Behring, while laboring under the impression that corrosive sublimate was the best germicide, placed it next in efficiency to corrosive sublimate—indeed, even superior to that much-vaunted agent in the presence of albumin.

The experiments of Behring seemed to demonstrate that in a solution of the strength of 1:10,000, anthrax spores were destroyed in forty-eight hours. The chief objections are the disagreeable property of indelibly staining organic matter and the fact that its germicidal efficiency is much impaired by the presence of chlorids—that of sodium (NaCl) for instance, which is present in appreciable quantities in such fluids as the urine. This is owing, as has been previously explained, to the formation of comparatively inert and insoluble silver chlorid.

Skatol.—Koch has proven that this substance, even in excess, in water has no germicidal power as far as its action upon anthrax spores is concerned.

Smoke.—This substance possesses inhibitory properties which have been known for ages; these properties have been made use of in the preservation of meats. The preservative properties of smoke are due to the pyroligneous acid and creosote which are contained therein, although in small quantities. Ben and Petri have shown that salted and smoked meats have contained bacteria undestroyed for six months; after that time, however, they usually failed to give any evidence of vitality. Hence we may conclude that smoke only exercises germicidal power upon long exposure either to its action or to that of its active principles.

Sodic Carbonate.—Na_2CO_3. This substance is more commonly termed *Soda* or *Washing Soda*. It is too familiar a compound to need extended description. Kitasato found that typhoid bacilli were killed in from four to five hours by a 2.47 per cent solution and that the spirilla of cholera were also destroyed by a 3.45 per cent solution.

Sodic Chlorid.—NaCl. This substance is better known as *Salt*—common salt. It is supposed by the laity, and indeed by many physicians, to possess valuable antiseptic properties. This is far from the truth, however; saturated solutions failed to destroy any bacteria (except the spirillum of cholera, which was killed in a few hours) even after prolonged exposure to its action. Experiment has demonstrated the fact that saturated solutions are utterly powerless to destroy or sterilize cultures of the tubercle bacillus even in two months exposure. Miquel has determined that the substance is antiseptic in the proportion 1:6.

Sodic Hydroxid.—NaOH. Better known as *Caustic Soda*. This substance has about the same germicidal activity as the analogous potassium salt (See potassic hydroxid). Miquel has determined that it is antiseptic in the proportion 1:56.

Sodic Di-iodo-salicylate.—This substance usually occurs in white acicular crystals. It possesses antiseptic properties and has been used chiefly as a dusting powder in the treatment of parasitic diseases of the skin. Its use seems to be somewhat limited thus far.

Sodic Di-thio salicylate.—This substance occurs as a grayish-white powder which is very hygroscopic and is also soluble in water in the proportion 1:1—that is, equal parts. This sulphur derivative of the sodium salt of salicylic acid has antiseptic properties; it has been used locally, as in ozena, and has also been used internally in the treatment of gonorrheal rheumatism and rheumatic fever. When so administered the usual dose is 3 grains given about twice *per diem*.

Sodic Paracresotate.—$NaC_8H_7O_3$. This salt of paracresotic acid occurs usually as a fine, white crystalline powder with a bitter taste; it is somewhat soluble in warm water (about 1:24). It is said to possess antiseptic as well as antipyretic properties and is said to have given successful results when used. The usual dose is 1–20 grains, but as an antiseptic it is given in doses of 1–8 to 1–4 of a grain.

Sodic Sozoiodolate.—$NaC_6H_2I_2OHSO_3$. This compound occurs in the form of well-defined but colorless prisms. The substance is spoken of as an antiseptic; its chief uses so far have been in the treatment of syphilitic ulcers (as a substitute for iodoform), in diseases of the bladder and also in catarrhal affections of the nasal mucous membrane. The salt may be used locally as a dusting powder or in solutions of the strength of one

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per cent or else in the form of an ointment of about ten per cent strength.

Sodic Sulphite.—Na_2SO_3. Sternberg obtained entirely negative results from the use of this sodium salt of sulphurous acid. For a long time the sulphites and the hyposulphites enjoyed popularity as germicides of reputed value; but recent researches indicate that they are utterly devoid of germicidal power and hence the sanguine expectations of Polli of Milan have not been realized in this direction. They do not seem to have any material effect upon the process of fermentation and as fermentation without the presence of bacteria is an impossibility, the inference is obvious.

Sodic Sulphocarbolate.—$NaC_6H_5SO_4.2H_2O$. This is the sodium salt of sulphocarbolic acid, and is obtained as a white soluble salt by dissolving sodic carbonate in sulphocarbolic acid. It is closely allied in chemical nature as well as antiseptic activity to the zinc salt of the same acid. (See sulphocarbolic acid, also zinc sulphocarbolate.)

Sodic Tetraborate.—This term is only properly applied to common borax, which is the sodium salt of tetraboric acid. However a different substance is erroneously described under this name by Squibb, Cerna and other writers. This spurious tetraborate is described as a compound resulting from the mixture and application of heat to equal parts of borax, boric acid and water; upon cooling a neutral compound is said to result. It is a well known fact that boric acid yields metaboric acid upon the application of heat to boiling. It is exceedingly probable then that the action of heat upon the mixture results in the formation of sodic metaborate, which crystallizes out from the resulting liquid, water being simply a vehicle. The reaction could be expressed thus:

Borax. Boric Acid. Sodic Metaborate. Metaboric Acid.

$$Na_2B_4O_7 + H_3BO_3 + \text{heat} = 2NaBO_2 + 3HBO_2.$$

This so called "tetraborate," which is probaly a metaborate, occurs in hard, transparent and clustered crys- with a neutral reaction upon litmus. It is somew soluble in water and is said to possess antiseptic properties which are similar to if not greater than those of borax and boric acid. Water at the ordinary temperature dissolves about sixteen per cent. of the substance, and it is this saturated aqueous solution which is used locally in medicine. Menz finds that it has the disadvantage, however, of forming hard crusts on surgical dressings; these hard crusts are objectionable because irritating to abraded surfaces. This is undoubtedly due to crystallization by evaporation of the aqueous menstrum of the solution used. Thus far the substance has received little recognition.

Sodic Thiophen Sulphonate.—This substance is a thiophen derivative of the sodium salt of sulphonic acid, and is represented by the chemical formula $C_4H_3S.NaSO_3$. It usually occurs as a white, crystalline powder which has been used chiefly as a dusting powder in various diseases of the skin; it is said to be superior, for such use, to beta-naphthol.

Sodic Thio Sulphate.—$Na_2S_2O_3$. This is the substance commonly and erroneously termed the hyposulphite. Hypo-sulphurous acid is H_2SO_2, and its sodium salt would be Na_2SO_2—the only correct chemical formula for sodic hyposulphite. The substance commonly called the hyposulphite or "hypo" is really the sodium salt of thio sulphuric acid $H_2S_2O_3$.

The so-called hyposulphite has been vested with antiseptic powers in the minds of physicians ever since the day of the extravagant claims of Polli of Milan—indeed even earlier. The experiments of Arloing, Cornevin and Thomas prove it, however, to be utterly devoid of germicidal power. Miquel has determined that it is antiseptic in the pproortion 1:3—this indicates feeble powers. (See sodic sulphite.)

Solutol.—This substance belongs to the same class of bodies as creolin, cresin, lysol, saprol, solveol, etc. It is a combination of cresol (cresylic acid) and sodic cresylate; it contains about sixty per cent. of cresylic acid, one-fourth of which is free and the remaining three-fourths being combined with sodium to form the cresylate. Cresol itself is insoluble, and sodic cresylate is therefore used to render it soluble, otherwise it would be practically useless. We may therefore consider solutol to be an alkaline solution of sodic cresylate in excess of so called cresylic acid (cresol.) In respect it is markedly similar to, indeed almost identical with cresin, which see.

It makes a very effective preservative for cadavers, and hence may be service in the dissecting room. It is also of great use for the disinfection of closets, sinks, infected bed clothing, infectious sputa or other such discharges, etc. Its caustic and strong alkaline nature, precludes its use in surgery, either as an application or even in surgical dressings. It has played no part in the medical literature of the past year.

Solveol.—This substance is analogous to solutol, being a solution of cresylic acid (cresol) in sodic cresotate. It usually occurs as a dark liquid with a little odor and a *neutral* reaction; it is soluble in water While slightly caustic and irritant it is not as markedly so as solutol. It is also not so greasy as either creolin or lysol. It is usually used in strengths of one-half to one per cent., being slightly irritant in such proportion. Hueppe seems to think that it is superior to carbolic acid, but this opinion does not seem to be upheld by the surgical world, at least it has been unable to supplant carbolic acid in surgery.

Sozal.—This substance is the aluminum salt of paraphenyl-sulphonic acid (also termed sozonic acid). It is somewhat allied to Alumnol, the aluminum salt of naphthol-sulphonic acid. It occurs in the form of crystals, which have an astringent taste and a slight odor of carbolic acid; it is soluble in water and does not seem to decompose very readily. It has been recommended for use in surgical dressings, although it is but a feeble antiseptic. If one may judge from its disappearance from medical literature, it seems to have practically passed from use.

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SOZOIODOL.—This substance is also termed *Di-iodo-para-phenyl-sulphonic acid*. Squibb gives the following method for its preparation:

"About two parts of crude carbolic acid are added very slowly to one part of strong sulphuric acid. The reaction raises the temperature to about 110°C. and continues for two or three days, when para-phenyl-sulphonic acid (sozonic acid) is formed. Any excess of carbolic acid is removed and then iodine is added to form this sozo-iodolic acid (sozo-iodol)."

It occurs in acicular prisms which are free from odor and readily soluble in alcohol, water and glycerine. It has been employed as a local antiseptic in diseases of the skin and naso-pharynx; also in venereal diseases and wherever iodoform is applicable. It is used locally as a dusting powder, or in gauze, or in collodion, or in solution in strengths of 5 to 20 per cent. The aluminum, ammonium, lead, potassium, sodium, zinc and mercury salts of this acid are employed more frequently than the acid itself. The sodium salt seems to be the most favored derivative thus far; it occurs in bright, somewhat prismatic acicular crystals, which are odorless and employed either in substance or else in 5 to 10 per cent. aqueous solutions. Guttmann reports thirty cases of pertussis in which nasal insufflation of the substance gave good results.

Witthauer has employed the mercurial salt in powder, emulsion and ointment with what appears to be good effect.

Dräer claims that preparations of this substance, and of the free acid and mercurial salt in particular, possess marked disinfectant action when brought into contact with cholera spirilla, and also that sufficient strength of solution and length of exposure is able to completely prevent their growth. This, however, Hueppe directly contradicts. Suffice it to say that the substance is not growing in favor.

STERESOL.—This is the name for an antiseptic varnish introduced into therepeutics by Berlioz. It is recommended for use in diphtheria and in certain skin affections. Two formulas for the substance are given, the first of which is from Blanc.

	Grms.
Gum Lac.,	5.
Gum Benzoin,	5.
Balsam Tolu,	5.
Cryst. Phenol.,	1.5

Alcohol sufficient to dissolve.

II.

	Grms.
Purified Gum Lac.,	270
Purified Gum Benzoin,	10
Balsam Tolu,	10
Cryst. Pheno	180
Oil of Cassia,	6
Saccharin,	6

Alcohol sufficient to make 1 litre.

No clinical reports have been received in regard to this preparation as yet; it is therefore impossible to decide its status.

STYRACOL.—This substance is the cinnamic ether of guaiacol, and is produced by heating cinnamyl chlorid and guaicol together. It has the chemical formula $C_5H_5\,C_6H_4.OCH_3.CH{:}CH.CO.O$. It occurs as a crystalline needle-like powder. It was suggested as a local antiseptic, also internally in pulmonary tuberculosis, in diseases of the gastro intestinal tract, in chronic vesical catarrh, and in gonorrhea. Experience has hardly justified these expectations, however, and like many others of its therapeutic brethren it seems to have died the death.

STYRON—This substance is a compound of Peruvian balsam and liquid storax. It has been used locally in ulcerations, and has been suggested for administration in cholera. It has been employed in the spray in a strength of four per cent.; in solution in the strength of eight per cent., and for introduction into serous cavities, such as those of the chest and abdomen, in solutions of varying strengths from 1:200 down to 1:50.

It is but little heard of recently.

SULPHAMINOL.—Alto termed *Thio-oxy-di phenyl amin*. It is obtained by the action of sulphur upon the salts of meta-oxy-di-phenyl-amin. It occurs as a light, pale-yellow, odorless and tasteless powder, which is insoluble in water but freely soluble in the alkalies, acetic acid and alcohol. Its solutions retain the pale-yellow color. It seems to possess the power of checking the formation of pus to some degree, and this is considered by some its chief claim to recognition in therapeutics; although its antiseptic power, if it has any at all, is very weak. It has been used in powder in wounds, and has been insufflated into the nasal fossae and sinuses of that region with some apparent benefit. It has been recommended in gastro-intestinal disorders on the supposition that the digestive fluids decompose it into carbolic acid and sulphur. However, it is used chiefly as a local application, as are also its derivatives sulphaminol-creosote, sulphaminol-eucalyptol, sulphaminol guaiacol and sulphaminol-menthol. When administered internally it is usually given in single doses of four grains, or daily doses of fifteen grains.

Wojtaszek conducted a series of experiments upon rabbits in order to test the claims of the advocates of sulphaminol. After such experimentation he concludes that "sulphaminol is devoid of any physiological action. As regards its alleged antiseptic properties, they also seem to be about *nil*."

Squibb says that the substance has not been in general use during the past year, and that even during the year before last few reports concerning it appeared in medical literature.

SULPHOCARBOLIC ACID.—$HC_6H_5SO_4$. Also termed *Phenol-sulphonic acid*, *Sozolic acid* and *Aseptol*. It is formed by the action of concentrated sulphuric acid upon phenol (carbolic acid). Icthyol is sodium or ammonium icthyo-sulphonate, a derivative of this acid; it is a natural product, however. The acid itself is not

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so much used in medicine, its derivatives being in commoner use; the chief of these are the sodium and zinc salts (which see).

[TO BE CONTINUED.]

A Discussion of Dr. Shattinger's Paper, "A Plea for the Treatment of Typhoid Fever by Cold Baths."

BY F. W. ABEKEN, M.D.

Read before the St. Louis Medical Society, May 5, 1894.

While listening to the paper presented by Dr. Shattinger, I experienced sundry uncomfortable tweaks of conscience. Thirty years ago I had become convinced of the efficacy of the cold bath treatment for typhoid and other pyrexias. It had been proposed, if I remember correctly, by Esmarch and adopted by Langenbeck, as Surgeon-General in the Danish German war. Subsequent reports of brilliant successes with it, notably during the Franco-Prussian war, confirmed my conviction, as did the small experience I had with it myself. But, in spite of this, my conviction, I have employed it in all these years in (probably) less than one-third of my cases on account of its impracticability. It is so much more easy for an attendant to wipe, with a loving hand, the clammy sweat from a few square inches of forehead, than to handle a patient bodily and to hustle around every few hours with tubs, and buckets, and ice chunks, and gasoline stoves, etc. It is so much more easy for the physician, also, to scratch a recipe than to combat prejudice, to judge several times daily the number and duration of baths, and to urge the patient to submission and the attendants to do their duty.

The theoretical objection, that high temperature is Nature's means to kill disease germs, and that this should therefore be interfered with only when it becomes excessive and dangerous to life, *per se*, comes in here very conveniently. But, back of all objections, there looms that incontrovertible argument, so well presented by Dr. Shattinger, that the proof of the pudding is the eating of it; that the low mortality of the bath treatment, when compared with any other, is incontestable. After I had heard Dr. Shattinger's interesting paper, and had felt said compunctions—I hope my case is an isolated one—I resolved then and there to again more actively combat the objections I generally meet when I propose these baths. I chanced to have on hand two cases of typhoid fever, in the second and third week respectively. I put my virtuous resolution into execution the very next day in both cases, with the result that, after the exhibition of much diplomacy, and after having accidentally gained the concurrence of an influential female member of the family by a remark, which was taken, by mistake, for a compliment, I managed to get one patient, my worst one, into the water. I now have him doing nicely; but, with the result in the other case, which permits me to now pose, in a modest way, as a martyr to my convictions. After my proposition, I was not even permitted to pursue my previous treatment, intestinal antisepsis, but was dismissed in disgrace and had my pains for my trouble. This patient, I hear, is at present on "a tablespoonful every third hour" and in a very low condition.

This illustrates the only exception I take to Dr. Shattinger's position. I do not think that this treatment is as practicable in private practice, as he contends, not, at least, with a certain class of people. But this impracticability does not authorize us to abandon a case and bar us from applying whatever we may consider the next best treatment, because this is, after all, better than nothing.

Patients are not denied all treatment, and are not thrown out of a hospital because they refuse amputation. Moreover, there is really much to commend this intestinal antisepsis in typhoid and in cholera. Both are primarily local diseases in the intestines. To judge from recent publications, we have agreed to treat the last named disease, if it should ever reach us, with local remedies, by washing out the germs and debris from below and introducing germicides from above. Can not the same be done in typhoid? The difficulty will be to reach the seat of disease from above or below. Dr. Marks, therefore, proposes to cut his way directly through the abdomen into the bowel. How would it do—in typhoid and cholera—to send from above (as suggested for another purpose, I forget where), *i. e.* Peroxide of hydrogen, mercurials, sulpho-carbolates, etc., in keratine coated pills or in large elastic keratine capsules, which do not dissolve and become wasted before reaching the seat of disease—the lower part of the small intestine. Drugs in this form are not, to my knowledge, in the market. But, if the wish to make such experiments is expressed by a body like the St. Louis Medical Society, our great manufacturers would, no doubt, furnish the means therefore.

The Drink Question in America.—A committee of the "Sociological Group" has been formed in this country for the purpose of investigating the "liquor problem" in its physiological, ethical, and legislative aspects. The committee includes such representative divines as Cardinal Gibbons, Archbishop Ireland, Rabbi Gottheil, Bishop E G. Andrews, besides physicians and men of science like Dr. J. S. Billings, Professor Bowditch, of Harvard; Professor Furnam and Chittenden, of Yale; Dr. Weir-Mitchell; and public men like President Eliot, President D. C. Gilman, Mr. Cornelius Vanderbilt, and others. Physiological experiments on a large scale are proposed, and the investigation is to be made as complete as possible.

Now is the time to subscribe for the MEDICAL REVIEW.

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EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

All letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, should be addressed to 914 Locust Street, St. Louis.

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The Candidacy for the Presidency of the American Medical Association.

In referring to this candidacy in our last issue, we promised to give a faithful pen picture of the St. Louis candidate to our readers in this issue; we had prepared and placed it in the hands of our printer; but our publisher just having received the following letter, we concluded to give it in place of the pen picture previously intended; however, as it is evident from this letter that Dr. Love objects very strongly to having this pen picture of himself AT THE PRESENT TIME, we will keep same in type so it can, if at any time desirable, be produced without additional expense.

Dr. Love's Threatening Letter.

ST. LOUIS, MO., May 22, 1894.

MR. J. H. CHAMBERS, 914 Locust St., City.—

MY DEAR SIR.—Editorials appearing in last week's WEEKLY MEDICAL REVIEW, and the one issued yester day, a copy of which was given me by Dr. Broome, coupled with an announcement which I saw in the *Globe-Democrat* of a week ago last Sunday which was to the effect that the undersigned was a candidate for the Presidency of the American Medical Association, together with personal statements made to me by your friends, all taken together, indicate that there is considerable anxiety manifested on the part of some one connected with your publication with reference to said matter.

First of all, permit me to allay said anxiety. One year ago I was elected without effort or knowledge upon my part, Vice-President of the American Medical Association and received several votes in the nominating committee for President of the same, all of which was very agreeable to me. I have received letters from leading representatives of quite a number of States pledging me their interest and loyalty for said office. I have received assurances of interest, sympathy and good wishes from a goodly number of the local profession. To all I have made the uniform response that I was not a candidate, would not be a candidate, did not desire the office, did not believe that I was entitled to it, believed that the honor should go to an older man. The copies of the numerous letters in this office will give evidence of this fact and a number of personal friends and numerous letters sent from this office will bear testimony that all of my interest for any particular person for the Presidency of the American Medical Association has been centered in my dear friend, Gov. Gracelon, of Maine, with whom it was my pleasure to be associated as a member of the Board of Trustees of the American Medical Association for three years. I thus go into detail to show to you that the statement that I am a candidate, desire to be a candidate or will be a candidate that has been made is absolutely false. I do this for the purpose of allaying the anxiety which seems manifest on the part of those connected with your journal and for this alone.

Permit me to say in this connection that I never yet in my life was an aggressive seeker for any office in the gift of the medical profession. Such offices as I have received, and I have been extremely fortunate; more than my merits deserve; I am sure have always come to me spontaneously and with the tribute of friends.

The tone of the editorials appearing in your publication followed by the specific announcement that a faithful pen picture will be presented in the next issue, is noted. I desire to give you in the most emphatic manner fair warning that in presenting any pen picture of my personality you must have a care. When it comes to a matter of pen pictures or personal journalism I can assure you that I can hold my own with any Richmond that has yet appeared in the field or is likely to, and if I desire to enter into any such work, considering the vulnerability of the owner of the WEEKLY MEDICAL REVIEW and the extreme vulnerability of the chief of the editorial staff, I do not think that there will be any question but that I can present some very readable matter, and if I am forced to the issue I will do it in a manner to suit the queen's taste. There will not be a grease spot left of those whose pen pictures are presented; but such matters are not agreeable to me. I am not in favor of personal journalism; and I give you this notice that it is not my intention to engage in it; but, that I will hold you personally severally responsible for the utterances of your journal.

I write to you direct for the reason that I know that you practically edit your own journal, as no editor with which you have relations puts in anything except under your direction and control, whether it pertains to an

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individual or the medical profession at large, or your various pharmaceutical products, including Dioviburnia, etc.

Personal controversy is very distasteful to me, but when it is necessary, I can meet the emergency.

Yours, etc.,

J. N. Love

If Dr. Love felt that the preliminary announcements made in the REVIEW were aimed at him, it is but another illustration of how easily "the shoe fits" some people.

The editors of this journal had simply prepared extracts from the record, and have not had, and will not have in future, any personal controversy with Dr. Love.

Whatever interests the *owners* of the REVIEW may have in pharmaceutical preparations is no concern of the editors.—Mr. Chambers does not disclaim being interested in a number of pharmaceutical products manufactured exclusively for physicians to prescribe. The REVIEW has at heart the well being of the Association, and is not interested in the ambitions of individuals.

How to Live Long.

From the standpoint of a physician it is impossible to put up general rules for the conduct of ones life in order to insure longevity, each individual case will have to be treated according to its own peculiarities. If the physical and mental condition of all persons were the same, then the same rules would hold good in every case. But the inherited and acquired weaknesses and conditions of mind and body must more or less modify the physician's advice. That which produces the best health, necessarily insures the longest life, and in order to give advice for the attainment of good health it is necessary to individualize. While for one person a total abstinence from all stimulants may be the most conducive, to another a moderate stimulation may be imperative. As the surroundings change by advancing civilization, so will the individual's wants be influenced and modified by them. With this modification we most heartily endorse the views expressed by Dr. D. E. Nelson, in his article upon longevity, published in the *Journal of the American Medical Association* of April 28, 1894:

"He who lives extensively, who avoids all stimulants, takes light and agreeable exercise, indulges no exhausting passions, feeds his mind and heart with no exciting material, has no debilitating pleasures, 'keeps his accounts with God and man daily squared up,' is sure if he has a good organism, to spin out his life, barring accidents, to the longest possible limit.

"The poet, William Cullen Bryant, when asked the secret of his health and vigor at upwards of eighty answers: 'It is all summed up in one word, *moderation*.' The ancients laid much stress on gastronomy, as many idioms in all languages attest. 'Heaven sends the food, but the devil sends the cook,' is an old saw that is more forcible than elegant. How many a young man squanders on a holliday or an evening's entertainment an amount of nervous energy which he will bitterly feel the want of when he is fifty. Even warm affections are prejudicial; they subject the owner to constant anxiety, and are as unnerving as the excitement produced by politics or gambling. Nothing is more exhousting than anxiety for a sick wife or child, or nursing a friend through a long sickness, unless you can truthfully say that you take no interest in the result. When a 'fine old man' was mentioned in Swift's presence, he exclaimed angrily: 'There's no such thing; if his head or heart had been all right they would have worn him out long ago.'

"Our fine enthusiasms, if they rise into intensity, are costly and lessen the number of moments we have to live. Some years ago a gentleman in England set about ascertaining the causes of the premature deaths of his acquaintances who had been cut off within twelve years. Of forty individuals, he found that twenty had died from excessive mental labor or excitement, and twelve of these were not intellectual laborers, but men of the world. Sydenham tells us that one of the severest fits of gout he ever suffered from, arose from great mental labor undergone in composing his treatment on that disease.

"While all excess is injurious, it must not be inferred that hard brain-work apart from other causes tends to shorten life. Mental labor, apart from grief and fears, from forced or voluntary stinting of the body's needed supply of exercise, food or sleep and the mind's supply of social intercourse, rather prolongs life than cuts it short. Even overwork of the brain is probably for less injurious than underwork. Nine-tenths of the students and professional men who are supposed to break down from intense toil, wear themselves out, not by repletion of study, but by a vicious misapplication of their normal, physical or intellectual forces.

"Lord Brougham lived eighty-nine years. Lord Lyndhurst wore out at ninety-one. Epimenides, the seventh of the wise men, is said to have lived to one hundred and eighty-four. Hippocrates reached ninety-nine, Pythagoras reached eighty, and was murdered. Dr. Franklin was eighty four. Montgomery, the poet, lived to be eighty-two. Sydney Smith lived to seventy-six and Sir Isaac Newton to eighty-five. The Right Hon. William E. Gladstone, who retired from the Premiership of England only a short time ago, was last December, eighty-four years old. Dr. Beard, of New York, in an able paper on the 'Longevity of Brainworkers,' has proven beyond even the shadow of a doubt that the world's hardest workers, so far from being short-lived, show a very high average of life; a far higher average than the world's drones, and those who had added nothing to its accumulated capital of happiness, knowledge, goodness and truth. It is an established fact that not a few of the long-livers might materially lengthen their days by taking more exercise and sleep, and by economizing more carefully the ex-

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penditure of intellectual and moral energy.

"It is known by every scholar that mental application is one of the most effective means of relieving bodily pain, and that it is especially fitted to soothe the ruffled spirit and to mitigate the asperity of corroding anxiety and care. Bacon, in his 'History of Life and Death,' is emphatic in declaring the religious and literary to be among the forms of life most conducive to longevity. 'There are,' says he, 'in religious life, leisure, admiration and contemplation of heavenly things, joys not sensual, noble hopes, wholesome fears, sweet sorrows, continnal renovations by observances, penances and expiations, all of which are very powerful to the prolongation of life.' There is a popular notion, which has long been deeply rooted, that precocity of intellect is unfavorable to longevity. It has been shown conclusively, that as a rule, a brain of exceptional force is united to a constitution of exceptionally good fiber, and that precocity, so far from being premonitory of early decay and death, is almost a mark of vast undeveloped abilities, and of a prolonged existence crowded with triumphant usefulness.

"Three of the most precocious geniuses of their day were Bishop Thirlwall, Lord Macaulay and DeQuincy, yet they lived to the ages respectively of seventy-eight, fifty-nine and seventy-four. Of all the qualities of mind that conduce to longevity, none are more vitally essential than contentment, cheerfulness and hope. Worry kills more men than the most exacting work, whether physical or mental. Legitimate work develops force, while worry checks its development and wastes what already exists. The physician should be engaged to protect the household and individuals from the assaults of disease, to detect and meet the first and very slightest indications of disorder; and thus, we shall certainly see life prolonged.

"There is no doubt that long life, if it be virtuously and happily spent, is a blessing most earnestly to be coveted. The mere lapse of years, however, is not life; 'knowledge, truth, love, beauty, goodness and faith give vitality to the mechanism of existence.' The value of time is purely relative; and if we count it by heart-beats, not by tickings of the clock, or the shadow of the dial; if, 'he lives longest,' as Baily says, 'who knows the most, thinks the wisest, acts the best;' then many who were rich in years have really died young, while others whose lives measured by the calendar, were cut short early, have been rich in life.

"Shakespeare, who died at fifty-two, lived ten times as long as poor old Parr who could boast of his one hundred and fifty-two years. Mere old age following an oyster-like existence, during which one has droned away his life in his shell, never buffeting the waves for himself or others is a questionable blessing; but the serene old age which is secured by temperance, sobriety and the conquest of vicious appetites and passions, the long mellow autumn of life, in which are harvested the fruits of years of useful to , is to be coveted and striven for by all."

CORRESPONDENCE

The Prevention of Consumption.

Editor MEDICAL REVIEW.—Apropos of the article in the REVIEW for April 28, 1894, on "The Prevention of Consumption," I beg to say: That your remark as to the intermarriage of children of tuberculous parents is certainly sensible. It would seem that, although medical science is making substantial progress, it is high time that we call a halt on extremists and stop to reflect that we live on a planet whose inhabitants are afflicted (?) with what is termed mortality.

While as really competent and educated physicians, we should know that it is "in the nature of things" that something at some time must be the cause of every one's dissolution, yet it should be the humane effort of us all to attempt to prevent depopulating and loathsome epidemics and as much as possible alleviate human suffering. But in the face of the fact that phthisis has been, is, and always will be unavoidable, some of Dr. Potter's suggestions seem unphilosophical. To carry them out would be utterly impracticable in our present state of civilization. We shall always be subject to the vicissitudes of our existence. How long would it be should every tubercle bacillus on this planet be destroyed, until they would originate *de novo?*

To prevent undue mortality from consumption would certainly be advisable. This should be an axiom of the profession. While it is not at all doubtful that many people die with tuberculosis that might have lived longer, it is true also of other diseases. The ignorance of the masses would at once be an insuperable difficulty in the way of carrying out Dr. Potter's ideas, and we must necessarily for all time have plenty of ignorant people. We should look at the matter in every light. Should we attempt to carry out his ideas, we would be opposed by capital as well as ignorance. This is certainly apparent. Especially as regards the inspection of animals. If it is done at all, it should be done as Dr. Potter suggests. To do this would cost more than it does to run our public schools—in the end. In addition to these minor considerations, there is a moral and a social aspect of the subject. Every created being has a destiny to fulfill. Should it be that the happiness of two tuberculous patients should be withheld on the ground of sanitary regulations alone? There should certainly be serious consideration before our legislators assume the right to compel the isolation and interdict the marriage of unfortunate tuberculous subjects. This would be a great stride in restricting human liberties. We have some fourteen hundred diseases. There are plenty of avenues to the other world. Therefore, considering the certainty of death and the impossibility of preventing tuberculosis, it is a very grave question whether we should *now* think of interdicting intermarriage of tuberculous persons.

S. H. BRITTON, M.D.

President U. S. Pension Ex. Board, Marion, O.

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Resolutions Adopted —Philadelphia County Medical Society.

Editor MEDICAL REVIEW. — At a meeting of the Philadelphia County Medical Society, held April 18, the following resolutions were adopted:

WHEREAS, The Code of Ethics of the American Medical Society declares it derogatory to professional character for a physician to dispense or in any way promote the use of a secret nostrum; and the American Medical Association by a resolution unanimously adopted at its meeting in 1892 forbade the advertising of such nostrums in its journal; and,

WHEREAS, The Journal of the Association has continued to advertise such nostrum and in defense of its course in this particular, has published an anonymous personal attack on a member of the Americal Medical Association and of this Society; therefore,

Resolved, That the Philadelphia County Medical Society respectfully demands that the Trustees of the Journal shall in their public official acts, respect the spirit and letter of its Code of Ethics; and that the columns of its Journal shall not be used for the anonymous personal abuse of its members in good standing.

Resolved, That a copy of these resolutions be transmitted to the Medical Society of the State of Pennsylvania; and to the American Medical Association; and to the weekly medical journals.

T. A. SCHNEIDEMAN, Secretary.

BOOK REVIEWS

An American Text-Book of the Diseases of Children. Including Special Chapters on Essential Surgical Subjects: Diseases of the Eye, Ear, Nose and Throat; Diseases of the Skin; and on the Diet, Hygiene, and General Management of Children By American Teachers Edited by Louis Starr, M D., assisted by Thompson S. Westcott, M.D. Price, Cloth, $7.00; Sheep, $8.00; One half Russia, $9.00 Philadelphia: W. B. Saunders St Louis: J. H. Chambers & Co., 914 Locust Street.

This work is thoroughly abreast with the rapid advance which is constantly made in this branch of medicine and is pre eminently useful to the practitioner and student. The many excellent collaborators have been carefully chosen from among our best men in this branch of our profession, each writing upon a subject with which he is thoroughly familiar through experience and original research. It is a work of 1190 pages, in which everything that is essential in this specialty has found due consideration, without unnecessarily burdening the memory with details and such matter as is of more importance to those engaged in research than to those in active practice.

The work contains twenty-eight excellent full page lithographic plates and a great many smaller illustrations. The print is large and clear. The book answers the purpose for which it was intended most admirably and is, to our knowledge, the best text-book on diseases of children in existence. It should be found in the library of every American physician and medical student.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, May 5, 1894, the President, W. B. OUTTEN, M.D , in the chair.

Dr. Joseph Price, of Philadelphia, was introduced by the president, Dr. Outten, who asked him to address the society.

DR. PRICE said.—"It is a great pleasure to be with you and to visit your city; and a great compliment to be called upon to address you. It is something altogether unexpected and, as my time is limited, I shall lose no time in accepting the invitation. I shall express myself briefly on a subject that interests all of us, and particularly dying and suffering women. Someone has told me that you purpose discussing inflammatory troubles of the pelvis this evening. You are all probably aware that if there is any one subject in medicine in which I am and have been for years really more interested than in any other, it is that subject. I am satisfied that there is no subject, in the diseases of women, of such vital importance from an etiological point of view.

"It is curious that the profession should have groped in darkness for so many centuries, as to the precise nature of pelvic inflammatory troubles. So many lectures have been delivered, so many papers, chapters and books written, all absolutely worthless. I often wonder how so many wise men could have written so voluminously about any subject, without investigating it; without writing with a precise knowledge of the subject. Surely, women died by the thousands with sinuses about the umbilicus, about the groin, back and sacrum; and had the physicians made post mortems, they could have cleared it up easily and early."

The speaker referred briefly to the investigations of Burnitz and Goufil, and those made in England and Ireland, by which the actual conditions were clearly demonstrated; but, in spite of which the profession, all over the world, refused to accept the positive knowledge thus gained. Patients continued to be treated by the old fashioned local treatment; they left the hospitals slightly benefited, but returned after a short time

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and died. Two prominent Dublin surgeons, after careful post-mortems of the cases, reported them as puerperal pyo salpinx or puerperal ovarian abscess. In spite of these recorded cases, Sir James Y. Simpson, who prefaced his article on pelvic inflammatory troubles by a record of these cases, brushes the information aside and classifies the cases as retro-uterine or pelvic cellulitis. In this country also, after rather complimentary review written upon the work of Burnitz and Goufil, there exists a tendency to teach that it is pelvic cellulitis; there seems to be a tendency to revert to the old theories of pelvic inflammations, due to some traumatism.

These cases of pelvic inflammatory trouble are very common, existing in large numbers in all cities. The speaker said that he makes it a custom to inquire about the cases under the observation of several prominent practitioners in every city which he visits. He never fails to find large numbers of them. The great majority of cases, 75% or more, are due to gonorrheal infection, while 10 or 15% are due to neglected cases of abortion or over treatment. There is no doubt, in his mind, that excessive treatment, tinkering and numerous applications to the womb have at present something to do with the frequent cases of tubal or ovarian disease and fixation of the uterus.

The disease begins, in the vast majority of cases, with vaginal or uterine inflammation extending into the tubes, resulting in occlusion, fixation and retention of either blood, pus or water. It is positively necessary that a correct diagnosis be made, for therein often lies half the cure. We should first familiarize ourselves with the pathology, next make an accurate diagnosis and then treat the disease with a clear recognition of an indication and not from pure guess work. In his opinion, over half the cases are improperly treated; too many operations are performed; there is too much tinkering done; too much curretting. Some cases should not be curretted under any circumstances. It is positively contra-indicated in some instances. A most careful examination of all the pelvic viscera should be made before instituting the treatment. First, the uterus should be examined, in reference to its size, mobility and outline; with reference to its relation to surrounding parts, its tenderness and fixation. Second, the condition of the adnexa is to be determined. If the tubes are found distended and adherent, they must be removed, as they are then absolutely worthless and can never be restored to their normal state of usefulness and functioning.

At the last meeting of the American Medical Association, a paper was read in which conservative methods of procedure were advocated in the treatment of these troubles. In the discussion which followed, it was decided that these methods were absolutely worthless, and that the work would have to be done over. Four months later, the author of this same paper made the sweeping statement that hereafter the uterus will be removed in all cases. The speaker said that there is something radically wrong in discussions of this kind. There must be something wrong with a man's observation, with his clinical work, or with his thoughts. There are often cases reported where women are said to have conceived and to have given birth to a child, in from nine to sixteen months after having had a pyosalpinx; but you might just as well say that a woman whose husband had been castrated ten years before has conceived by him and bears a child. None of us want mutilated women. The speaker has four children, and is so fond of them that he wants fourteen. He said that he would rather cut off his right hand than to remove a healthy tube or ovary, except to stop the growth of a fibroid or the progress of a disease. He operates in diseased conditions only, chiefly in pus case, no cavity being too foul to prevent operation. The patients are often miserable, emaciated, and have lost from forty to sixty pounds, and yet, upon removal of these pus cavities, they become beautiful. If we would have a woman show instead of a baby show, the speaker volunteered to take the first prize for good looks, with one hundred pus cases.

Conservative utterances are harmful, as they often lead to the death of the patient, if the treatment is delayed in accordance with the teachings. Then, too, there are often two patients made out of one dose, by first introducing medical treatment in accordance with conservative teachings, and afterwards relegating her to the surgeon.

The speaker alluded briefly to the present position of the medical profession in regard to endometritis. Endometritis is not a common disease; it is a rare one. It does not occur to any great extent in the practice of such men as Gaillor, Thomas or Emmett. Emmett denies its existence; and he is a careful observer; a scientist in the purest sense, he accepts truths and facts only. Everything is endometritis to-day, and everything in the way of treatment of the disease is a variety of the "big four" operation. First, curretting of the uterus; second, drainage; third, removal of the appendages; and fourth, the removal of the uterus, with the other small procedures tacked on.

In conclusion the speaker said: "We should first familiarize ourselves with the pathology of this disease; second, with the diagnosis; and third, with the treatment. It will then be a simple matter."

Dr. Meisenbach presented a specimen of Carcinomæ Mammæ, exhibiting also three photographs, illustrating three steps of the operation, and two sections of the tumor, under a high and low power microscope respectively.

The history of the case is as follows.—Miss E., age 45, single and seamstress by occupation, was first seen April 21, 1894. In January of this year she first noticed the small tumor at the base of the right nipple. This tumor continued to grow in size and was occasionally accompanied by pain. The breast was small and atrophied; tumor about the size of a walnut, slightly tender upon pressure, freely movable over the underlying feciæ, and covered by an area of reddened skin. Upon

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deep palpation in the axilla an enlarged, indurated lymphatic gland was detected.

Patient was operated upon Tuesday, April 24. Considering the history of the case and the presence of the enlarged gland, it was decided to invade and thoroughly explore the axillary space. An incision was therefore made, beginning at the insertion of the pectoralis major into the humerus, and extending along its inferior border to a point just beneath the breast. By this incision only one flap is made which readily falls downward and allows of a thorough inspection of the axilla. The position of the arm is at 45 % to the axis of the body. Circular incisions were made in the breast and the tumor was very readily removed. The entire chain of lymphatics were found indurated, which made a sweeping dissection of the axillary space necessary. All the lymphatic glands were removed, as was also the fatty tissue surrounding the vessels.

This dissection of the axillary space, the speaker said, is deemed unnecessary in some cases by some authorities. Frederick Treves, in his latest magnificent work on surgery, says that it is not necessary to remove the axillary glands in cases where the tumor is circumscribed. The fact remains, however, that the results of operations for carcinoma have been more favorable, since the sweeping dissections of the axillary space, advocated by German surgeons, have been carried out.

It was not possible to coaptate the edges of the original incision without undue tension, until several lateral incisions were made into the skin, thereby producing sliding flaps. This was done because it was deemed advisable to obtain primary union in the line of the original incision. Union was complete in seven days.

Dr. T. E. Murrell presented two patients upon whom he had operated for advancing the recti muscles to correct divergent squint.

In the first case there had been a divergence of from 20 to 25 degrees, caused by an amblyopia, or nearly blind left eye; a congenital condition in this case. Amblyopia is nearly always associated with or leads to marked divergent squint. The internal rectus muscle was advanced by a division of the external rectus. The method employed consists in bringing the muscle out and lapping it. A verticle incision is made across it and, passing a suture back into the inner canthus, twice through the muscle and out again above and below through the tendon, the suture is tied, thus bringing the muscle tight and lapping it. One suture is always sufficient, and in this case it was removed on the seventh day. The eye slipped considerable, and it became necessary to divide the external rectus of both eyes, and to bridle the eyes to get sufficient correction. The result was a very good one and, the speaker said, there is no danger of the eyes turning out again, as the patient has sufficient convergent power.

In the second case there was fully 45° divergence, and amblyopia in both eyes. Vision is very imperfect in both eyes, not exceeding $^{15}/_{200}$ in either one. The left internal rectus was first advanced by the lapping operation, but there was slight slipping after removing the suture ten days later. The right eye was operated upon ten days ago, and the suture is still in place, not producing any irritation There is a slight disposition to convergence, but under ordinary conditions the eye is almost perfectly parallel.

The discussion of Dr. Shattinger's paper (see page 413),

A Plea for the Treatment of Typhoid Fever by Cold Baths,

was taken up.

Dr. F. W. Abeken read a paper in discussion of the subject.

Dr. I. N. Love was opposed to the employment of the cold bath in all cases of typhoid fever in an iron-clad, stereotyped way. He thought the objections made by Dr. Abeken were, every one of them, tenable. Those who have been connected with hospital practice in any capacity, will bear out the statement that the management of these cases differs radically from that possible in private practice.

He thought that almost any proposition might be proved by statistics. Any form of treatment, even though it be the most absurd, carefully, uniformly and constantly employed by an intelligent practitioner, will yield uniformly good results. As soon as it is announced to the profession at large, however, as applicable to all kinds of cases, it becomes wrong in toto.

In typhoid fever we must recognize several things. First, we have the bacillus of Eberth, and its tox albumen which is being absorbed into the system and against which we must guard our patient Second, we must recognize the fact that typhoid fever cannot be aborted. We have a distinct siege before us, whose course can only be modified, which should be impressed upon our patients. Our treatment should be instituted in accordance with this knowledge. The chief objections to the cold bath are that we do not always have trained assistance at our disposal in private practice; then, a cold bath will create a convulsion in some domestic circles, and will shock a sensitive patient. In the speaker's opinion, the cold bath, as recommended by Brand, is a brutal procedure, and should be employed in a modified form, either of a higher temperature, or in the form of mild sponging or the wet pack.

The doctor thought there are five principal indications to be followed in the treatment of typhoid fever.

1. Elimination. The alimentary canal should be thoroughly flushed out; the kidneys and all other excretory organs should be stimulated into activity.

2. Tranquilization. This is particularly desirable on account of the implication of the nervous system. It can oftentimes be furthered by clearing the house of inquisitive friends and over-anxious relatives and members of the family; but must be secured, in some cases, by the use of drugs.

3. Nutrition. This, in typhoid fever as in all other systemic infectious diseases, must be our sheet-anchor of hope.

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4. Stimulation. This is properly a part of nutrition, but it helps to tide over a patient at the time of greatest danger. Besides being a food, it acts as an antagonist to the development of tox-albumens. It should not be used in excessive quantities, but should be used carefully, as are other drugs.

5. Disinfection. This must be obtained by the use of proper drugs. Cold water constitutes a part of the general treatment and, in the speaker's opinion, should be used only in a modified form.

Dr. W. H. Fuchs said that he recognized the difference in the treatment of typhoid fever as conducted in hospitals from the treatment as carried out in private practice, from his own experience; but he believed that Dr. Love's criticism of the Brand method is unjust. One of Dr. Brand's specific instructions is, to begin with a modified bath of a higher temperature, and then to reduce it gradually until the patient becomes accustomed to it. The speaker rehearsed Dr. Love's five cardinal points, with reference to their furtherance by the Brand bath.

1. Elimination. It is absolutely proven that this function is advanced by the Brand bath. Not only does it render the bowels more active, but the secretion and excretion of urine in increased; as is also the elimination through the skin, which we must recognize as one of the most important physiological factors in excreting the waste products of the system.

2. Tranquilization. One of the best tranquilizers is the cold bath. Patients, who have been delirious, will regain their mental composure and will sink into a most refreshing sleep. The clearing of the room of visitors may be supplemented.

3. Nutrition. It is a well-known fact that typhoid fever patients, especially during the increasing stage of the fever, must be urged to take food. One of the effects of the bath is, not only to create an appetite when patients will actually crave food, but to further its assimilation.

4. Stimulation. The bath is recognized as the best stimulant to the nervous and circulatory systems known, acting adversely to the latter only when there is a previously existing valvular lesion or a parenchymatous degeneration.

5. Disinfection. The medicinal disinfection may be added to Braud's method of copious draughts of water, but it is usually not necessary, as with Brand's treatment the implication of Peyer's patches advances only to the stage of infiltration. This has been demonstrated by a number of autopsies performed on typhoid fever victims.

The impracticability of the treatment, in private practice, as urged by the previous speakers, is, no doubt, tenable to day, but so were antiseptics a few years ago. It is wrong to continue to urge that as an objection. One of the duties of the physician is to explain the advantages of the modern methods of treating disease; he must inform the patients of the greater possibility of recovery from these methods, and it will not require a long time before the cold bath will be accepted as a matter of fact. There is too much laxity displayed by the majority of practitioners in enforcing proper methods of treatment, notably in reference to antisepsis in obstetrical practice. The consequence is, that the physician who tries to enforce these so-called "new-fangled" ideas, is constantly meeting with opposition.

Dr Boas considered the cold bath a valuable adjunct to the other treatment, but did not think that it should be used to the exclusion of other remedies. One of the great mistakes made is in supposing that the cold bath will cure typhoid fever. Death from this disease is not due to hyper-pyrexia, but to intestinal perforation and hemorrhage caused by the action of the typho toxines; or to a parenchymatous degeneration of the heart, leading to heart failure.

Dr. Love again stated that the cold bath is only an adjuvant to other forms of treatment. He thought that Drs. Shattinger and Fuchs would modify their views, in regard to the bath as the only remedy, after they had several such experiences as those depicted by Dr. Abeken. He admitted the great utility of the bath as a therapeutic aid, but thought the antiseptic treatment the ideal method.

Dr. F. R Fry said that he remembered reading a discussion of an eastern society, where some ardent young men were recommending a certain treatment for diphtheria. An old fellow practitioner suggested to these young men that, in curing the disease, they must not kill the patient. The same advice is applicable to those who undertake to treat their typhoid fever patients by medicaments. In the speaker's opinion, the more cases of typhoid fever we treat the greater is the tendency to avoid drugs in the treatment of the disease. We can not help being struck with the necessity of preserving the strength and energies of our patient; and any remedy which accomplishes this should engage our attention. If we carefully look over the statistics derived from a variety of sources, we must see that the hydropathic treatment, judiciously administered, accomplishes this.

As a practitioner of several years' standing, the speaker could well understand the objections offered to such an innovation. But there is a way to overcome this difficulty. We should begin by using some modified form of the cold water application, such as a gentle sponge bath and the wet pack; and by practically demonstrating its utility, gradually arrive at the cold bath. With a little tact and good management, we can usually overcome all difficulties. Its beneficient effect in scarlet fever, erysipelas and other febrile and infectious troubles, has been conclusively proven; it is gaining friends; and, the doctor predicted, that it will be the recognized treatment in a short time.

Dr Graves thought that there is no doubt about the utility of the cold bath in typhoid fever. He emphasized the necessity of keeping up the strength of the patient by feeding at regular intervals.

Dr Kieffer believed there is no danger in starving

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patients. A good plan is to clean out the alimentary canal in the beginning, and then allow your patient to fast for three or four days. The tract should be kept in this condition of cleanliness. There is no doubt, in his mind, that cold baths are good agents, but we should begin with tepid water, as no patient should be shocked.

Dr R. Funkhouser said that it has been impossible for him, in his private practice, to introduce the Brand method exclusively, on account of the prejudice against it by the laity. He has been obliged to resort to the sponge bath. In addition, he keeps the temperature of the room as low as possible, and allows the patient large quantities of pure water. This, at first thought, would seem to be contra-indicated on account of the vomiting that might possibly be induced, but he has been agreeably surprised that this symptom remained absent, and that the patients seemed greatly benefited by the water. He is also in favor of large doses of antipyretics, notably the coal tar products, and quinine, but relies rather upon the expectant plan of treatment; on nourishment and stimulation. High temperature does not kill the patient. It is simply an indication of the change going on in the system.

Dr Shattinger, in closing the discussion, said that the majority of the remarks made to-night were forestalled in his paper. If some of the members, who have discussed the paper adversely, had been present when it was read, they would not have criticised it. Some fallacious tendencies, which crop out every time the bath treatment is mentioned, require counteracting in particular.

There is always a cry that it is unnecessary to reduce the temperature. He had expressly stated that those who used the cold bath solely as an antipyretic, did not understand what it was for. He emphasized that statement again, and said that no one who characterizes the cold bath as a brutal proceeding has tried it correctly. He had tried it himself and had found it a great comfort.

As to its producing convulsions, the speaker said, that he had never seen such an effect, neither could he find any such case on record. Some of his cases were children, four and five years old, and in every case the effect was soothing. The treatment was not objected to by the patients, the results were invariably good, and the families gained confidence in it.

So far as the anti-toxine is concerned, the cold bath brings the normal forces of the body into play and they are a better anti-toxine than is contained in the whole materia medica. As to the danger of parenchymatous degeneration, that need not be feared, as the cold bath absolutely prevents its development.

The argument that it is not a new treatment, was the poorest of all; the speaker did not claim that it was a new treatment. Its very age and the fact that it has steadily gained in favor, are the best arguments in its favor.

The statement that he gained his enthusiasm at the City Hospital, the doctor said, was incorrect. The Hospital, at that time, could not boast of a movable tub; in fact, it could not boast of anything in the line of modern therapeutic and surgical appliances. He had gained his experience with this treatment in private practice, since October, 1892; and has been able to treat every case but one by this method. Most of his cases were among the poorer classes of people, while the patients of most of the practitioners who opposed the cold bath treatment, are among the wealthiest class, and who can, therefore, have everything that is necessary to properly treat these maladies. He believed that it is nothing at all but a fear for the additional work involved. It is certainly much easier to write a prescription and be gone, than to enter into a lengthy explanation of the merits of the bath and then to supervise it daily.

Dr. Bauch, of New York, many years ago, before the Academy of Medicine, said that the bath might do very well for a Prussian soldier, but it would not do for Americans. He has since then openly retracted this statement, and has done everything in his power to make the profession see the advantages of this method.

The doctor closed by saying: I think if the profession would take hold of the treatment, it would not be long before the public would accept it gracefully.

ABSTRACTS

MEDICINE.

A Critical Review of the Various Theories of Uremia, Based upon Original Experimental Observations.—At a meeting of the New York Neurological Society, April 3, 1894, Dr. C. A. Herter read a paper with this title. He began by stating that few subjects of a medical nature had received more attention at the hand of clinicians and investigators than uremia. Yet at the present time there was an uncertainty as to the nature of the uremic state that was discouraging both to the student of pathology and to the practitioner who sought to understand the conditions he was called upon to treat.

Dr. Herter first gave a brief historical sketch of the growth of opinion regarding the nature of uremia, and then reviewed in detail the various theories that had been advanced. The first one taken up was that known as the mechanical theory of uremia, which had its chief basis in the clinical and post-mortem studies of Traube, who had been impressed with the facts that in many cases of Bright's disease the blood was impoverished in its corpuscular and proteid elements, the left ventricle was hypertrophied, and the arterial tension was greatly increased. The hydremia, combined with high arterial tension, was supposed to account for the cerebral edema

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found at autopsy. The uremic symptoms Traube referred, not to cerebral edema, but to the anemia of the brain resulting from the pressure exerted by this edema. There were objections to this theory. In the first place, edema of the brain was present in only a small proportion of cases where there had been unequivocal symptoms of uremia during life. There had been many cases of kidney disease with no hydremia, no cardiac hypertrophy, and no increase of arterial tension; yet even when these latter conditions were present, there was usually no edema of the brain. In the second place, edema of the brain was found in conditions where Bright's disease was absent, and there were no symptoms of uremia. Then again, drugs which produced convulsions might produce cerebral edema, and it was likely that the edema of the brain seen in uremics was often the consequence rather than the cause of the convulsions. A further objection to the mechanical theory was that lowering of the arterial tension, where it was high, did not necessarily relieve the uremic symptoms. The dyspnea of Bright's disease was often thus relieved, but usually the convulsions were not. Bleeding frequently stopped the latter, but it checked them often also where there was no excess of tension. The effects of bleeding could not be used as an argument in favor of Traube's theory, because it might be alleged that the bleeding relieved the circulation of poisonous substances.

The carbonate-of-ammonium theory had been advanced by Frerichs, and was based upon the following propositions:

1. It was a well-known property of urea to be readily transformed under favorable circumstances into ammonium carbonate.

2. Carbonate of ammonium could always be detected by chemical means in the blood of uremic patients.

3. The injection of ammonium carbonate into the blood of animals gave rise to the symptoms of uremia.

The fate of Frerichs' theory hung on his second proposition—namely, that the blood of uremics always contained ammonium carbonate. From numerous experiments made by Gobee, Oppler, Zalewsky, and others, including the author, the following conclusions might be drawn:

1. That no ammonium carbonate, or only a small amount, was found in the blood of uremic persons.

2. That amounts of ammonium cerbonate far smaller than the quantity required to kill were readily detected.

3. That urea injected into the blood of dogs was not converted into ammonium carbonate.

We might therefore state that Frerichs' second proposition was without substantial foundation. It had been stated that the ammoniacal breath occasionally met with in uremic patients was evidence of ammonia in the blood. It was more likely to be found in uremics with gastro intestinal symptoms, and the ammonia probably came not from the blood, but from the gastro-intestinal tract.

The theory of Trietz differed from that of Frerichs mainly in that it supposed the conversion of urea into ammonium carbonate to take place in the intestine instead of the blood. He held that it was by the entrance of the ammonium carbonate into the blood that the uremic state arose, and the objections already made to the proposition of Frerichs, that uremic blood contained ammonium carbonate, applied here with equal force.

The potassium theory of Felz and Ritter was based upon the idea that the potassium of the blood-serum, which was normally present in very small amount, might accumulate under pathological conditions and cause death, the potassium salt being rapidly fatal in animals when injected into the veins in even inconsiderable quantity. The experimental and chemical evidence of various observers was strongly opposed to this theory, and it might be unhesitatingly abandoned.

The theory of Brown-Sequard was that the kidney elaborated an internal secretion which was essential to health, and the suppression of which was responsible in a large degree for the phenomena of uremia, while the accumulation of toxic substances in the blood was thought to have little or no influence in causing uremic symptoms.

The following were the chief facts upon which this hypothesis rested:

1. It was maintained that the injection of kidney extract into the circulation of a nephrectomized dog caused the temporary disappearance of uremic symptoms.

2. It was held that the well-authenticated cases of survival of patients with anuria for a week or more without any signs of uremia, especially in cases of mechanical obstruction of the ureters, was evidence that it was owing to the internal secretion of the kidney that this inhibition of uremic symptoms took place. All the statements advanced in support of the first proposition, Dr. Herter said, were equivocal, and those advanced to support the internal secretion theory were equally weak.

The extractive theory of uremia referred the toxemic symptoms to the accumulation in the blood of the extractives usually found in urine; among these might be mentioned xanthine, uric acid, creatinine, etc. In order to show that a substance played a part in the production of uremic symptoms it was necessary to prove that this substance was present in the blood in uremia, or was present in excessive amount, and that the substance was toxic to the higher mammals. The evidence was not fully satisfactory regarding either of these points. The observations that had been made hardly established the fact that an accummulation of the extractives was a feature of all or many cases of uremia. The evidence was even less strong in regard to particular members of the extractive group.

Regarding the view which attributed the uremic phenomena to the action of toxines, the poisonous basic products of bacterial activity, there was little to be said, for the evidence on which it was built was scanty

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and conflicting. None of the toxic ptomaines that had been suspected in this connection had been found in the blood of uremics.

The evidence relating to urea as a factor in uremia might be grouped in answer to the following queries:

1. Does urea occur in excess in the blood of uremic patients?

2. Is urea toxic, and, if so, to what extent does it explain the symptoms of uremia?

As regards the first question, we had a sufficiently large accumulation of observations made by competent investigators to enable us to reach a definite decision In the blood of Bright's disease the quantity of urea was largely increased beyond that found in the normal blood, and its presence was readily detected even by imperfect chemical methods. When we came to the second question we found that the facts which favored and those which opposed the idea that urea was toxic seemed to be about evenly balanced. Dr. Herter then reviewed the observations that had been made bearing on this question, and detailed a number of experiments made by himself which went to prove that pure urea injected into the blood of the dog and monkey in large amount was in the highest degree toxic. The autopsies in these cases had disclosed marked congestion of the gastro-intestinal tract. To what extent and under what conditions urea was a factor in uremia the author said it was not possible for him to state at the present time. Facts at our command strongly favored the view that the gastro-intestinal symptoms of uremia were due to urea. There was no doubt that we at present grouped together under the term uremia conditions which were totally distinct as regarded pathology. The evidence was very strong, though not quite conclusive, that one group of symptoms depended largely on the accumulation of urea and perhaps extractives in the blood, while another set of symptoms bore the stamp of an infective process operating in the presence of renal insufficiency. Observations might show that even further subdivisions of cases were required by pathological considerations.—New York *Medical Journal.*

Tuberculin in the Food of Consumptive Patients.—The allegation has been made that the heat used in cooking tuberculous meat and in boiling or Pasteurizing milk does away with every element of danger by killing the microbes and their spores. Professor James Law, of Cornell University, has stated, however, in a recent number of the *Cornell Bulletin*, that the cooked meat and milk are still dangerous because of the chemical poisons secreted by the microbes, especially those in the tuberculin. Sterilization is not a restoration to a non poisonous condition, for, though the possibility of inoculation is removed, the product is not rendered innocuous. The sterilization of Koch's tuberculin has not by any means rendered it safe and harmless: On the contrary, it invariably intensifies any existing tuberculous process, developing fever and general constitutional disorder. Hence, whenever tuberculin is present in meat or milk, it causes these foods to affect consumptive patients in the same manner. In Professor Law's experience with tuberculosis he has observed cases in which invalids drinking the milk of tuberculous cows suffered very obviously, but as soon as such milk was withheld there was a marked improvement. He noticed that calves sucking consumptive cows did badly and proved unthrifty, though they took all the milk furnished by their respective nurses, but when weaned and fed on solid food, they thrived much better. He has followed such calves until they grew up and were slaughtered, and found in the post-mortem examinations that they bore old calcified tubercles pointing back to the time when they had sucked the diseased and poisonous milk. K. Yamagiva successfully inoculated guinea pigs with tuberculosis and afterward administered tuberculin, and found that it so greatly hastened the onset of general tuberculosis that after a week tuberculous centers were found in the lymphatic glands, spleen, liver and lungs. Human beings are much more susceptible than the guinea pig to the tuberculin poisons. It may be safely held as proved by analogy, observation and experiment that the soluble poisons of tuberculosis invariably operate by exaggerating any existing tuberculous process, and that blood and other animal fluids becoming charged with such poisons uniformly tend to further endanger the health and life of any patient who may consume them while suffering from tuberculosis. The germ, especially in the tubercle of this disease, which might have remained comparatively dormant and harmless in the absence of the poisoned meat and milk, is by these stimulated to a more deadly energy.

Prevention of Tuberculosis in the City of New York.—The Health Department of New York City has issued the following circular: The communicability of pulmonary tuberculosis has been so thoroughly established, and is now so generally recognized by the medical profession throughout the world, that the Board of Health of New York City has determined that the time has arrived when active steps should be taken, looking towards its prevention in this city. The board has therefore resolved to adopt the following preliminary measures:

1. The department will hereafter register the name, address, sex and age of every person suffering from tuberculosis in this city, so far as such information can be obtained, and respectfully requests that hereafter all physicians forward such information on the postal cards ordinarily employed for reporting cases of contagious disease. This information will be solely for the use of the department, and in no case will visits be made to such persons by the inspectors of the department, nor will the department assume any sanitary surveillance of such patients, unless the person resides in a tenement-house, boarding-house or hotel, or unless the attending physician requests that an inspection of the premises be made; and in no case where the person resides in a

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tenement-house, boarding-house or hotel will any action be taken if the physician requests that no visits be made by inspectors, and is willing himself to deliver circulars of information, or furnish such equivalent information as is required to prevent the communication of the disease to others.

2. Where the department obtains knowledge of the existence of cases of pulmonary consumption residing in tenement-houses, boarding-houses or hotels (unless the case has been reported by a physician and he requests that no visits be made) inspectors will visit the premises and family, will leave circulars of information, and instruct the person suffering from consumption and the family as to the measures which should be taken to guard against the spread of the disease, and, if it is considered necessary, will make such recommendations for the cleansing or renovation of the apartment as may be required to render it free from infectious matter.

3. In all cases where it comes to the knowledge of the department that premises which have been occupied by a consumptive have been vacated by death or removal, an inspector will visit the premises and direct the removal of infected articles, such as carpets, rugs, bedding, etc., for disinfection, and will make such written recommendation to the board as to the cleansing and renovation of the apartment as may be required. An order embodying these recommendations will then be issued to the owner of the premises, and compliance with this order will be enforced. No other persons than those there residing at the time will be allowed to occupy such apartments until the order of the board has been complied with. Infected articles, such as carpets, rugs, etc., will be removed by the department, disinfected and returned without charge to the owner.

4. For the prevention and treatment of pulmonary tuberculosis it becomes of vital importance that a positive diagnosis shall be made at the earliest possible moment, and that the value of bacteriological examinations of the sputa for this purpose may be at the service of physicians in all cases not under treatment in hospitals, the department is prepared to make such bacteriological examinations for diagnosis, if samples of the sputa, freshly discharged, are furnished in clean, wide-necked, stoppered bottles, accompanied by the name, age, sex and address of the patient, duration of the disease, and the name and address of the attending physician. Bottles for collecting such sputa, with blank forms to be filled in, can be obtained at any of the drug-stores now used as stations for the distribution and collection of serum tubes for diphtheria cultures. After the sputum has been obtained, if the bottle, with the accompanying slip filled out, is left at any one of these stations, it will be collected by the department, examined microscopically, and a report of the examination forwarded to the attending physician free of charge.

5. The authorities of all public institutions, such as hospitals, dispensaries, asylums, prisons, homes, etc., will be required to furnish to the department the name, sex, age, occupation and last address of every consumptive coming under observation within seven days of such time.

It is the earnest wish of the Board of Health that all practicing physicians in this city co operate with the board in an earnest and determined effort to restrct the ravages of the most prevalent and formidable disease with which we have to deal.

The Venous and Hepatic Pulses and the Arrhythmic Contraction of the Cardiac Cavities.—James Mackenzie (*Journal of Pathology and Bacteriology.*) points out that, so far as clinical methods of examination are applicable to the study of the heart, they nearly all have reference to the condition of the left side; although, if carefully sought, symptoms connected with the right side are not of infrequent occurrence. Of these symptoms, the most striking and the most instructive is the pulsation of the veins, which, in a sense, bears a relation to the right heart comparable to that which the arterial pulse bears to the left. The venous pulse, however, offers a different kind of knowledge, inasmuch as it is itself a pathologic manifestation that gives information regarding the condition of both the right auricle and ventricle, while the arterial pulse affords direct knowledge of the left ventricle only. The venous pulse, too, presents a greater variety of features, and is subject to influences so subtle that it may manifest variations with the changing condition of the patient, during which the arterial pulse reveals no appreciative variation. A full comprehension of the import of these variations would enable an understanding and a combating of certain diseased conditions of the heart as yet very obscure and ill-defined. As the result of an elaborate and painstaking investigation, Mackenzie has found that the form assumed by the venous pulse in the slightest degree of cardiac derangement is that in which the movements of the auricle are added to the venous current; that is, there is a wave in the veins due to the auricular systole and a depression due to the auricular diastole. There is usually present a smaller wave (the ventricular), in the mildest forms of regurgitation, occurring after the closure of the pulmonary valves. With increase of regurgitation this ventricular wave appears before the time of closure of the pulmonary valves; but the latter portion of this wave is always the most pronounced, and the time of closure of these valves is indicated by a sudden increase in the size of the ventricular wave. In some advanced cases of tricuspid regurgitation this earlier portion of the ventricular wave encroaches upon the time occupied by the auricular depression, and both auricular wave and depression become less marked as the ventricular wave increases, until finally the auricle ceases to impress its movements upon the venous current. The ventricular systole and diastole are then communicated directly to the venous current and produce the ventricular form of venous pulse. In the same manner any

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hepatic pulse may undergo variations, but the regurgitant effects are not evident in the milder cases, only occurring when there is some organic disease of the heart giving rise to forcible regurgitation. The hepatic pulse also assumes features similar to the auricular and ventricular forms of the venous pulse, with some slight modifications depending upon the difference in structure. There is also a movement communicated to the liver from the variations in size of the ventricular cavities. This movement appears to be a diastolic depression and a systolic recession, and is therefore at variance with the time usually assumed for the recurrence of these movements. When the heart's action is quickened there is a change in the form of the auricular venous pulse, consisting, first, in the disappearance of the period of stasis between the ventricular depression and the auricular wave; and, second, in a disappearance of the ventricular depression and a blending together of the ventricular and auricular waves. There is some probability that the contraction of the superior vena cava may manifest itself in the venous pulse. There is evidence that the variations in the venous pulse may be useful to indicate variations in the blood pressure, certain influences being found to further the increase and others to produce the disappearance of the venous pulse. The observation of the venous pulse, with the left heart action, serves as the best means of determining the lack of harmony between the contraction of the different heart-chambers.

The cases of irregular heart-action studied are separated into seven groups:

1. Those in which there is complete agreement in relative rhythm during certain phases of irregularity of the right auricle and ventricle and left ventricle.

2. Those in which there is an exaggerated auricular impulse during this period of irregularity.

3. Those in which there is a maintenance of the periodicity of action of the right auricle during irregular action of both ventricles.

4. One in which there is a persistence of the auricular systole during a pause in the ventricular systole.

5. One in which there is a contraction of the right ventricle during a pause of the left.

6. One in which there is complete discordance in the action of the two sides of the heart.

7. One in which there is a probable displacement of the relative time of the right and left heart-movements.

Paroxysmal Tachycardia.—Lange (Pittsburg *Medical Review*) gives a good delineation of the symptom-complex includes in the designation paroxysmal tachycardia, and related two cases. He observes that examination of the patient during the attack will show that the pulse cannot be correctly counted at the radial, the carotid, or the temporal. On auscultation, it is difficult, often impossible, to differentiate the first from the second sound. The first sound may be divided, the contractions of the ventricles being asynchronous. Finally, every wave of blood does not reach the radial artery. A fetal character is imparted to the heart-sounds, which are, as a rule, distinct and clear, although at times a slight blowing systolic murmur may be heard. On palpation the impact of the heart is wanting, and is replaced by a series of diffused vibrations. Percussion demonstrates some increase in the area of cardinal dulness to the left, but much more downward over the right ventricle. This increase is but transient, and disappears with the cessation of the attack. The urine passed during the attack may be of increased specific gravity, containing an excess of urates, but no albumin. The face is pale, and the lips may be cyanotic. No undue fulness of the veins of the neck and chest can be detected, and there is no cough. When an attack has continued for many weeks, the liver can be shown to be enlarged, and fine mucous rales may be heard low down behind. Therapeutically, sedatives such as the bromides, hydrocyanic acid, calabar bean, and conium, have been found effectual in bringing the attack to an end. Cold and heat have acted similarly. In one of the cases reported the attacks could be aborted or brought to a close by deep inspirations held for fifteen or twenty seconds.

OBSTETRICS AND GYNECOLOGY.

Treatment of Rupture of the Uterus.—Krajewski (*Nouvelles Arch. d' Obstet. et de Gyn.; Brooklyn Med. Journal*) discussing a case of rupture of the uterus during labor, lays down the following rules for treatment:

Non Infectious Cases.—*a.* Rupture Incomplete.—1. Without Hemorrhage: The rupture should be drained with iodoform gauze and the vagina plugged with the same, the uterus being controlled by a firm abdominal binder. 2. With Hemorrhage: A firm packing of the retro peritoneal cavity and the vagina is to be first tried. This failing, resort should be had to the extra peritoneal incision of Bardenheuer in the fold of the groin. The retro peritoneal cavity is then to be cleansed of clots, the bleeding vessels ligated, the cavity drained through both the vagina and the abdominal wall with iodoform gauze.

b. Rupture Complete. — 1. Without Hemorrhage: The uterus is drawn down with a volsella and put in ante- or retro-version according to the situation of the rupture. The laceration, the uterine cavity, and the vagina are then packed somewhat firmly with iodoform gauze and a tight bandage applied over the abdomen. 2. With Hemorrhage: The case must be treated by opening the peritoneal cavity.

Infectious Cases.

a. Rupture Incomplete.—1. Without Hemorrhage: The entire uterus should be removed by the vagina, its peritoneal covering being left intact. The cavity left is to be cleansed and packed with iodoform gauze. 2.

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With Hemorrhage: The inguinal extra-peritoneal incision of Bardenheuer is made, the hemorrhage controlled, and the uterus removed extra-peritoneally. Extirpation through the wound proving impracticable it may be done through the vagina, the peritoneum being left. Drainage is practiced through the vagina and the inner end of the abdominal incision, the cavity being first disinfected. The rest of the abdominal incision is to be sutured and a gauze tamponade placed in the vagina.

b. Rupture Complete.—Independently of the presence or absence of hemorrhage, open the abdomen, cleanse the peritoneal cavity of blood and infectious materal and then, whatever the seat and extent of the rupture, remove the entire uterus, close the peritoneum over the vaginal opening by suture and plug the extra-peritoneal cavity from the vaginal side. Into the vesico-rectal excavation produced by oblation of the uterus, introduce a Mikulicz sac, placing its neck in the inferior angle of the abdominal wound.

Backward Displacements of the Uterus.—Cushing (*Annals of Gyn. et Ped.; Brooklyn Med. Jour.*) in an exceedingly intereating and instructive study of this topic refers to the "principal surgical measures for the relief of backward displacements which have received serious consideration," as follows:

Schultze's.—Bimanual manipulation under anesthesia; stretching and rupture of adhesions by finger in rectum and by fingers on the abdomen.

Schuecking's.—Anteposition of uterus by bimanual manipulation, and by sound if necessary; fixation in anteflexion by ligature carried through uterine wall at fundus and forward between bladder and uterus by means of special sheathed needle.

Freund's.—Sewing utero sacral ligaments to posterior wall of Douglas' pouch; obliteration of the pouch by aseptic adhesive inflammation by use of iodoform gauze.

Alexander-Adams'.—Shortening of round ligaments at inguinal ring, or by entering roof of Nuck.

Wylie's.—Shortening round ligaments by folding each on itself and sewing the fold together.

Polk's.—Bringing slack of round ligaments together in front of the uterus and fastening one ligament to the other by suture.

Combination of Wylie's operation and ventro fixation.

Ventro-fixation.—Fastening uterus to anterior abdominal wall by sutures.

In regard to Schultze's operation, it may be dismissed as practically obsolete.

Schuecking's method is condemned as unscientific.

Of Freund's operation it may be said that it need not be condemned in principle, but that for simple cases it is unnecessarily difficult and severe.

After discussing the Alexander operation pro and con he raises the question whether acute retroflexion is ever cured thereby and after increased experience distrusts the procedure.

My conclusions are:

1. That many cases of retroflexion, and most cases of retroversion, if uncomplicated, cause little serious disturbance, and require no operative treatment.

2. That severe retroflexion in the virgin, when giving rise to symptoms sufficiently severe to call for treatment, is best relieved by operation.

3. That cases of retroversion which cannot be made comfortable by simple measures, such as the use of a pessary, are usually obdurate on account of some complication which requires operation.

4. That of the operations designed for the cure of retrodisplacements, the only ones worth considering are the Alexander-Adams operation, the various methods of intra abdominal shortening of round ligaments, and ventro-fixation.

5. That there is a ligitimate and useful field for Alexander's operation, subject to the following limitations: The uterus must be free, the diagnosis must be exact, the anatomical conditions must be favorable.

6. That when these conditions are not present it is better to make a median abdominal incision and act according to circumstances.

7. That after opening the abdomen, if no complications are present, the uterus may best be secured in ante-position by shortening the round ligaments internally and by placing at each cornu of the uterus one suture which passes through the abdominal wall.

8. That the latter operation may properly be perfomed instead of that of Alexander if the surgeon perfers it, as it is equally safe and more reliable on the average.

Senecio Jacobea as an Emmenagogue.—In the *British Medical Journal* Murrell gives his experience in the use of this plant, the common ragwort or liferoot, as an emmenagogue. He began with half-drachm doses of a one-to-ten tincture, in water, three times a day, and, experimenting on himself to ascertain the quantity that it was safe to take, gradually increased the dose to half an ounce four times a day for a month, without producing any effect. He then began giving it to a woman suffering from menstrual derangements, and found that it answered well in cases of amenorrhea. His use of the plant was not limited to the tincture; in many cases he employed a one-to-one fluid extract, and he thinks that this fluid extract may sometimes have been prepared from Senecio aureus (an American species); but he does not think that the substitution of one species for the other is an important matter, as they both seem to have the same action. He has also used with good results the active principle, senecin, a dark, resinous-looking substance, the minimum dose of which is two grains three times a day. He has found senecin useful in cases in which menstruation, having been performed regularly for some years, has suddenly been suspended as the result of exposure to cold. In the majority of cases the function is not re-

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established until the drug has been taken for ten days or a fortnight; but in one case, after two periods had been missed, the patient became unwell after taking six two drachm doses. As a rule, only a drachm, three times a day, was given to begin with, and the dose was increased gradually; but the author says that it is perfectly safe to begin with two-drachm doses of the tinc ture or twenty minim doses of the fluid extract four times a day. These preparations, he says, are taken without difficulty, and do not cause either purging or vomiting. In some cases in which the amenorrhea was associated with decided anemia the drug failed. In some of these cases menstruation was restored by giving iron, but when that drug failed senecio answered well. Sometimes senecio is useful in cases in which menstruation has never been established. Dr. Murrell is satisfied that senecio not only hastens the occurrence of menstruation, but also increases the flow. In many cases it relieves the accompanying pain and frequently the headache. In one case a profuse leucorrhea of many months' duration disappeared coincidently with the administration of the drug. The author has very little doubt that senecio deserves to rank with permanganate of potassium and binoxide of manganese as an emmenagogue.

SURGERY.

The Use of Heat in Operative Surgery.—The successful substitution of heat for antiseptics in the preparation of instruments and surgical dressings has naturally led to the use of heat for sterilizing the wound itself. (*Med. Record.*) This is an ancient method. Hippocrates, Oribazius, and later writers down to the time of Pare, were unanimous in recom mending the use of the hot iron and boiling oils upon wounds. It may even be questioned if Pare did so great a service, after all, when he substituted for the cautery the use of dirty ligatures.

The systematic and scientific use of heat, however, for rendering wounds aseptic, is a thing of recent date. M. G Phocas, surgeon to the Hospital Saint-Sauveur, of Lille, has made a particular study of this procedure, more especially in connection with operations for re section. He refers to the experience of Felizet (*Bull. de la Chir.*, 1892) who employed the flame of a gas-jet for making the wound surface aseptic. He describes also the method adopted by Dreesnau, a pupil of Trendelenburg (*Centralb. f. Chirurg*, 1893, No 3). This surgeon poured into the cavities of the wound oil brought to a boiling point by the thermo cautery. In the same year M. Jeannel, of Toulouse (*Gaz. des Hopit.*, Nos. 59 and 62), proposed to make the surfaces aseptic by touching them with boiling water.

In 1892 M. Phocas began to employ boiling oil according to the method of Trendelenburg. At the same time he undertook, with the help of his assistant, M. Hennecart, some experiments to determine how much heat the living arteries and nerves could bear without disintegration. Three different methods of using heat were tested: first, cold oil was poured into the wound and then raised to a boiling-point by a thermo-cautery; second, boiling oil; and third, boiling water applied directly.

It is sufficient to say that the experiments showed boiling water to be much less injurious to the tissues than the oil. M. Phocas finally adopted the following procedure: In osseous cavities he poured in cold oil and heated it with a thermo-cautery for three or four seconds. In other wounds, but more especially in resections and arthrectomies, he touches the wound with plugs of absorbent cotton upon which he has poured water just at the boiling point. In this way every part of the wound is reached by water at a temperature of about 80°C. Each part is touched for three or four seconds, and the procedure is repeated several times.

M. Phocas states that since he has used the boiling water his results have been "incomparably better" than they used to be.

NOTES AND ITEMS

Dr. M. L. James, of Richmond, Va., has retired from the Professorship of Prictice of Medicine of the College of Virginia.

The Suit of Dr. Amick against the St. Louis *Clinique* and Faculty of the College of Physicians and Surgeons, of St. Louis, has been decided in favor of the plaintiff.—*Am. Med. Journal.*

A Hospital of Lepers, with a laboratory for the study of leprosy, has been established at Rio de Janeiro. Dr. Wolf Havelburg, a German physician, who for the last twelve years has practiced in Brazil, has been appointed director.

Masonic Hospital.—Chicago has added another well equipped hospital to its list of charity institutions, "the Masonic Hospital," of which Dr. G. Frank Lydston is the medical director and surgeon in charge, and Dr. E E. Page, superintendent. The directors of the hospital are: Geo. M. Moulton, K. T.; W. H. Gray, K. T.; Henry Baker, H. G. Purinton, C. F. Halbe, John A. Crawford, B. B. Wiley, D. A. Arnold, C. D. Shepherd.

World's Columbian Commission; Award to Medical Department, U. S. A.—The Executive Committee of awards of the World's Columbian Commission, through its Chairman John Boyd Thacher, has notified the Medical Department, U. S. Army of an award on account of its exhibit of hospital, laboratory

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and medical supplies as follows: For excellent equipment of a military hospital including furniture, medicines, instruments and dressings. For a clinical laboratory of approved design, well supplied with all the apparatus necessary to facilitate the study of clinical microscopy. For an interesting and important collection of sections, photo-micrographs and bullet effects, all showing a high grade of efficiency in this branch of the Army service.

Germany's Doctors.—Germany, whose population is about 50,000,000, had 21,621 physicians in 1893, against 20,500 in 1892; that is an increase of 1,521. That makes about 4.37 doctors for 10,000 inhabitants, but they are not equally divided throughout the Empire; for in some regions there are not even two doctors for every 10,000 inhabitants, while in other districts there are 30 of them for the same number of population. Germany possesses also 915 dentists and 4,988 druggists.—New York *Tribune*.

Asiatic Cholera.—The epidemic at Lisbon continues to spread and the disease is reported to have extended to the left bank of the Tagus, cases having appeared in the province of Beira near the Spanish frontier. A cable dispatch rom Madrid announces 225 new cases developed at Lisbon April 25, and on the 29, ult. there were 284 cases under treatment. A medical commission has been organized by royal decree of the Portuguese Government to advise the civil authority in regard to measures to be taken to check the farther spread of the disease.

Small-pox.—Up to the close of April there had been 1,210 cases of small-pox reported in Chicago since January 1, and the disease showed no signs of abatement. There were 544 cases reported during the month of April—an increase of 78 per cent over the previous month, and the rapid growth of the epidemic is shown in the following figures: January, 128 cases; February, 233 cases; March, 305 cases; April, 544 cases—total, 1,210. During the corresponding period of the first year of the epedemic of 1881–1883, there was a total of 412 cases, and the great increase was then, as now in the month of April—133 cases in April as against 99 in March.

"Christian Science."—The Supreme Nebraska, in the case of Nebraska vs, Buswell, has at last dealt a too long deferred blow at the so called "Christian Scientists." One of these irreverent charlatans was prosecuted in a lower court for practicing medicine contrary to the statutes of Nebraska, but was acquitted by the jury. On an appeal to the Supreme Court it was held that the act to establish a State Board of health, to regulate the practice of medicine in Nebraska, etc., is as much directed against an unauthorized person who shall operate on, profess to heal, or prescribe for or otherwise treat any physical or mental ailment of another, as against one who practices medicine, surgery and obstetrics as those terms are usually and generally understood.

In its decision the Court said: "The object of the statute establishing a State Board of Health, etc., is to prevent imposition upon the afflicted by ignorant and unqualified pretenders to healing power, and any person not within the exceptions prescribed in said act, and not having complied with its requirements as to a certificate, who shall under any pretence operate on, profess to heal, or prescribe for or otherwise treate any physicial or mental ailment of another, thereby renders himself liable to its penalties."

Credit to Whom Credit is Due.—At the nineteenth annuall meeting of the United States Hay Fever Association, Dr. S. S. Bishop, of Chicago, obtained the prize for the best essay on the subject of hay fever, proposing the theory of uric-acid origin, with salicylate of soda for treatment. One year previous to the reading of the essay, Dr. Shawe Tyrrel, of Toronto, read a paper before the Ontario Medical Society, entitled "A Predisposing Cause of Hay Fever," which was afterward published in the Canadian journals, setting forth the uric acid origin of the affection, and its treatment by soda salicylate and a proper diet.—*Med. News*.

Death of Dr. Keating, U. S. A.—Dr. William V. Keating died suddenly, on April 18, in New York, aged seventy-one. He was graduated from the University of Pennsylvania in 1844, and in 1861 was elected Professor of Obstetrics in Jefferson Medical College, holding the latter position for but a short time. From 1862 to 1865 he was Medical Director of the United States Army Hospital at Broad and Cherry Street. He was the Medical Director of St. Anges's, and St. Joseph's Hospitals, and a member of numerous medical and scientific societies. He was the American editor of Ramsbotham's "Midwifery" and Churchhill's "Diseases of Women."

Chloralose as an Hypnotic.—Dr. Rossi has tried the hypnotic effects of chloralose on forty patients of both sexes in the lunatic asylum of Reggio-Emilia, suffering from mental disease of the most varied forms, in all of which obstinate insomnia was present. The experiments in the forty cases makes up a total of two hundred and fifty observations (*The Brit. Med Journ.*). The drug was given in doses of 0.25 grm. to 1 grm., sometimes in powder, sometimes in solution, and the efficacy of the remedy tested by administration in the day time as well as at night. Rossi's conclusions are as follows: Chloralose in the average doses indicated by Richet (0 30 to 0.40 grm.) is not really useful in the case of lunatics suffering from true insomnia; in such cases doses of 0.70 to 0.80 grm. and even more are generally required. Given in the day time in the first named doses, chloralose is not satisfactory, usually causing nothing more than drowsiness. Given at night it al-

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most always induces sleep in from half an hour to an hour and a half, the sleep lasting a longer or shorter time, not only in proportion to the dose, but according to the idiosyncrasy of the individual. The drug is most active in form of insanity attended with depression and least so in those in which excitements is present, its action in the latter type of cases being inconstant and unreliable. Sleep induced by chloralose is quiet, but not generally very deep, the patients being aroused by the sligest noise, but immediately going to sleep again. The awakening does not seem to be accompanied by unpleasent sensations, but Rossi points out how difficult it is to get trustworthy information on this head from lunatics. No alterations of pulse or respiration were observed in patients under the influence of the drug; on the other hand, its action on the cerebral circulation appeared to be to increase tonicity.

Resignation of Dr. Pepper of the Office of Provost of the University of Pennslyvania.—To those who have had any adequate conception of the enormous labor, physical and mental, carried on during the past thirteen years by Provost Pepper in connection with his duties as physician, professor and chief administrative officer of the University of Pennsylvania, it has seemed simply marvelous that the human organism could endure such a strain. Dr. Pepper says it has now become necessary for him to choose between administrative work and medical science, and that his devotion to medicine has compelled his choice. The resignation was accompanied by a check for $50,000, in subscription to the fund for the extension of the University Hospital buildings. Dr. Pepper retains his connection with the Medical Department of the University. Dr. Pepper graduated from the Classical Department in 1862, and from the Medical Department 1864. He was Lecturer on Morbid Anatomy from 1868 to 1870, Lecturer on Clinical Medicine from 1870 to 1876, and Professor of Clinical Medicine from 1876 to 1877, when he succeeded Dr. Alfred Stille in the Chair of the Theory and Practice of Medicine. In 1881 he was unanimously elected Provost, which position, in connection with the professorship in the Medical School, he has since held with such marked distinction and with incalculable advantage to the welfare and prosperity and advancement of the University. It is with a wholly justifiable and honorable pride that Dr. Pepper, in his letter of resignation, recounts the splendid progress made by the University during the time of his administration. Surely the gratitude of the institution, of Philadelphia, of the State, nay, of Education, are due him for a devotion and self-sacrifice rarely if ever equalled; and to these the profession of medicine adds a most hearty tribute of appreciation and of pride in the achievements and honors of one of its members.—*Med. News.*

Report of Health Department on Laryngeal Diphtheria.—The following report has been sent to Hon. Charles G. Wilson, President of the Health Department of New York:

"Some months ago I had the honor to present a communication to the Board of Health, directing attention to the results obtained in the bacteriological examination of a considerable number of cases of so called membranous croup. In that communication it was shown that, in a large proportion of these cases, bacteriological examination disclosed the presence of the Klebs-Loeffler bacillus of diphtheria, proving that these were really cases of true diphtheria of the larynx. It was further shown, by the investigation of the clinical histories of these cases, that in many instances there was satisfactory proof that they were cases of diphtheria in which previous and subsequent infection could be traced. Since the former report a large number of further observations have been made, which, I believe, justify this department in considering so-called membranous croup as laryngeal diphtheria.

"Two hundred and eighty-six cases of so-called membranous croup in children have been examined bacteriologically. In 229 of these cases the characteristic Loeffler (diphtheria) bacilli were found, and these cases were thus proven to be true diphtheria. Of these 229 cases 167 showed no pseudo-membrane or exudate above the larynx, while in the remaining 62, although the larynx was mainly involved, there was also some pseudo-membrane present on the tonsils or in the pharynx. Of the 57 cases examined in which no Loeffler bacilli were found, in 17 the cultures were unsatisfactory, leaving the bacteriological diagnosis in these cases doubtful. Of the 40 cases remaining in which no Loeffler bacilli were found, in 27 the disease was confined to the larynx or bronchi, and in 13 there was also more or less exudate or pesudo-membrane present on the tonsils or in the pharynx.

"It has been shown, therefore, by these examinations, that about eighty per cent of the cases of so-called membranous croup in children, which have been subjected to bacteriological examination in the laboratory of the Health Department during the past ten months, were cases of true diphtheria; and of the remaining twenty per cent, six per cent were doubtful, and only fourteen per cent were undoubtedly not diphtheria. Further investigations have also shown that cases of pharyngeal diphtheria frequently precede, or follow, these cases of croup.

"Inasmuch, therefore, as so called membranous croup has been clinically separated from diphtheria, and as cases of this disease are not usually considered as laryngeal diphtheria, and are not reported to the Department as diphtheria, I would respectfully recommend that so-called membranous croup be regarded as pharyngeal diphtheria, and be included in the list of contagious diseases concerning which reports are required from physicians of this city. Respectfully submitted,

HERMANN M. BIGGS,
Pathologist and Director of the
Bacteriological Laboratory.

FORMULÆ

Hemoptysis.

℞ Neurosine, - - - - - - - - - fℨij.
Sig. Teaspoonful two to three times a day.

Varicose Veins.

℞ Ext. hamamalis, - - - - - - - - fℨj.
Ext. secal cornut., - - - - - - fℨj.
M.
Sig. Teaspoonful three to four times a day.

Strangury.

℞ Tinct. digitalis,
Tinct. scillæ,
Tinct. belladonnæ,
Spirit. eth. nitros, - - - - - - aa ℨij.
M.
Sig. Twenty drops every few hours.

Bronchial Catarrh.

℞ White Pine Expectorant (S. B. M. Co.).
Sig. As directed.

RAILROAD : NEWS

Special Notice.

American Medical Association.

San Francisco Meeting.

The Southern and Western Official Train for San Francisco will leave St. Louis, Wednesday, May 30, at 8:30 P. M., via the Missouri Pacific, connecting at Kansas City with the Union Pacific System through from St. Louis to Francisco without change. Arrangements have been made for one day lay over at Denver and one day at Salt Lake, arriving at San Francisco, 9:45 A. M, Tuesday, June 5. Parties who desire to go through without stopping en route can arrive in San Francisco one day earlier. Rate of fare from St. Louis to San Francisco and return $77.50, with corresponding low rates from all Southern and Eastern points. Return tickets will be made good by any of the direct routes.

The St. Louis delegation and delegates from the South will take this train. For further particulars address, J. F. Aglar, General Superintendent, Union Pacific System, 213 North 4th Street, St. Louis, Mo

The Congress of American Physicians and Surgeons

Will meet in Washington, D. C., May 29, 30, 31 and June 1, 1894, and the Big Four Route from both St. Louis and Chicago to Cincinnati, in connection with the Chesapeake and Ohio Railway from Cincinnati to Washington, will make special rates and arrangements for the delegates to the convention. The rate for the round trip has not yet been definitely settled by the various lines in interest, but the special rate by the Big Four Route and Chesapeake & Ohio Railway will positively not be more than one and one-third fare for the round trip, and may be less. The one way rate by the Big Four and C. & O. from St. Louis to Washington is $19.25, and from Chicago to Washington is $17.50. On May 26, 27 and 28, one-way tickets will be sold at these rates, and with each ticket will be given a certificate that will secure the holder a return ticket from Washington at one-third of the regular limited rate at any time within three days after the meeting adjourns. The Big Four Route and the Chesapeake and Ohio Railway is beyond all question the most comfortable, picturesque and desirable route from the West to the National Capital. The time is as quick and the service unequaled by any other line. All trains are vestibuled throughout, lighted by electricity and heated by steam, and carry the latest pattern of elegant day coaches with through Pullman sleeping cars and dining cars. The scenery along the upper Ohio, the Kanawha, through the canons of the New River, and among the peaks of the Blue Ridge and Allegheny Ranges, is beautiful beyond description. The route should be particularly interesting to physicians, as along the line of the C. & O. are located many health and pleasure resorts famous among the profession for over a hundred years for their curative and recuperative qualities. Among them are White Sulphur Springs, Old Sweet Springs, Rockbridge Alum Springs, The Hot Springs of Virginia, Buffalo Lithia Springs, Old Point Comfort and many others. Arrangements will undoubtedly be made to allow those who wish to do so, an opportunity to stop over at any of these resorts. For further particulars, maps, etc., or for a copy of "Virginia in Black and White," address E B. Pope or W. F. Snyder, Western Passenger Agents, Big Four Ticket Office, Corner Broadway and Chesnut Street, St. Louis, Mo.

BALTIMORE AND OHIO Southwestern R'y

(Baltimore & Ohio Southwestern R. R. Ohio & Mississippi R'y.)

Medical Congress.

The Congress of American Physicians and Surgeons which convenes in Washington, D. C., May 29 to June 1, 1894, will doubtless attract a great many physicians to the National Capitol. Those who do not travel via the Baltimore & Ohio Southwestern will miss one of the most delightful trips on the Continent.

Washington is itself a charming place to visit at this time of the year. It is the center of the Republic in effect, though perhaps not in fact and every one is anxious to visit it.

There is also a charming way to get there. That is over the Baltimore & Ohio Southwestern. This line has, to offer beside, the beauties of a trip over its lines, with the comforts of Pullman Dining, Parlor and Drawing Room Sleeping Cars. Special low rates made for this occasion.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

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[CONTINUED.]

VII—The Uses and Relative Values of Antiseptics (Concluded).

Sulphume.—This substance has been also called, "Pure Liquid Sulphur" (!) It is nothing more nor less than an aqueous solution of the higher sulphids or sulphhydrids of sodium and potassium saturated with sulphur, with traces of the sulphids of calcium and magnesium. It is very ingenuously but not ingeniously recommended by the manufacturer for skin diseases, open sores and ulcers, ulcerated throats, diphtheria "and other affections." It is almost totally devoid of germicidal power, however.

Sulphur Di oxid.—SO_2. This substance is erroneously termed "*Sulphurous acid*" and "*Sulphurous acid gas.*" It is produced by the burning of sulphur—that is, by its oxidation, thus:

$$S + O_2 = SO_2.$$

It is very extensively used for purposes of fumigation, but has little or no use in medicine or surgery proper.

Sternberg (1880) found that this substance, which is a gas, disinfected dried vaccine virus exposed for twelve hours on ivory points to the action of an atmosphere containing one volume of the gas. The liquid virus, however, exposed in a watch-glass, was disinfected by one-third of this amount.

Sternberg (1885) found that pus micrococci were killed by an exposure for eighteen hours to the action of a dry atmosphere containing twenty volumes of the gas (SO_2)—four volumes per cent failed. Experimental data force us to the inevitable conclusion that this substance, like chlorin, is much more active as a germicide in the presence of moisture. Moisture, as is the case with chlorin also, causes a bleaching action as well as an antiseptic one. An aqueous solution of the gas will give true sulphurous acid (H_2SO_3) thus:

$$SO_2 + H_2O = H_2SO_3.$$

The presence of moisture is essential to this substance (SO_2) if germicidal power is to be exercised by it. Indeed, in the pure state *anhydrous sulphur di-oxid does not destroy spores, even when the gas is liquefied by pressure.* Moisture is essential.

Thinot (1890) has come to the conclusion that the specific germs of tuberculosis, glanders, farcy of cattle, typhoid fever, cholera and diphtheria are destroyed by an exposure of twenty-four hours to an atmosphere containing the gas developed by the combustion of sixty grains of sulphur for every cubic metre.

The American Public Health Association in directing the use of this substance as a disinfectant recommends that the infected articles be "exposed for twelve hours to an atmosphere containing at least four volumes per cent of this gas *in the presence of moisture.*"

Sulphuric Acid.—This substance is too familiar to need description—suffice it to say, in this regard, that its chemical formula is H_2SO_4.

Koch (1881) found that anthrax spores grew after exposure to a one per cent solution for twenty days.

Sternberg (1885) demonstrated that a four per cent solution failed to destroy the vitality of the spores of the *Bacillus subtilis* in four hours.

Seitz found that the dejecta of typhoid patients, when mixed with equal parts of the disinfecting solution, were sterilized by a five per cent solution in three days. The evidence in the case forces us to the conclusion that sulphuric acid possesses considerably less germicidal power than carbolic acid.

Sulphurous Acid.—H_2SO_3. Sternberg (1885) found that micrococci were destroyed in two hours by 1:2000 by weight of sulphurous anhydrid (SO_2) added to water. He also demonstrated that pus cocci fail to grow in an aqueous solution of the strength 1:5000.

De la Croix determined that one gramme of sulphur di-oxid when added to two thousand parts of bouillon prevented the development of putrefactive bacteria and finally destroyed their vitality after a time.

Kitasato found that typhoid bacilli were killed .28 per cent and cholera spirilla by .148 per cent in five (?) hours.

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TANNIC ACID.—$C_{14}H_{10}O_9$. This substance, also called *Tannin*, is too familar to physicians to need description. It is more commonly used as a tonic, hemostatic and styptic but experiments demonstrate that it possesses more or less antiseptic activity. A twenty per cent solution failed, after two hours exposure, to destroy the spores of *Bacillus anthracis* and *Bacillus subtilis*. Abbott however demonstrated that a solution of the strength 1:400 (.25 per cent) destroyed micrococci. Kitasato found that 1.66 per cent destroyed the typhoid bacillus in five hours and 1.5 per cent effected the same result in the same time in the case of cholera spirilla.

Miquel has determined that it is antiseptic in the proportion of 1:207.

TARTARIC ACID.—$H_2C_4H_4O_6$ or $C_2H_2(OH)_2(COOH)_2$. This substance, which is manufactured from grape-wine deposits (argol), is used in medicine and the arts. It is sufficiently common to need no description. The substance seems to be about equal to tannic acid in antiseptic activity.

Abbott found that micrococci were killed in two hours by a solution of the strength 1:400. As was also the case where tannic acid was used, a twenty per cent solution failed to destroy the spores of *Bacillus anthracis* and *Bacillus subtilis*. Hansen has shown however that its germicidal power is limited to a comparatively small number of species—indeed whole species of microorganisms are not only unaffected by tartaric acid but even actually favored by it.

TEREBENE.—$C_{12}H_{16}$. This substance is supposed to be a modification of terpene, produced by the distillation of oil of turpentine with sulphuric acid; it is supposed to contain camphene, cymene, terpilene and borneol. It is a light yellow liquid with the odor of freshly-cut pine wood, or the odor of thyme. It is somewhat soluble in ether and alcohol but practically insoluble in water. It is said to be an agreeable antiseptic, a five per cent solution is said to have made a very serviceable surgical dressing. It has been used by inhalation in bronchial affections and in pulmonary tuberculosis.

It may be used internally in capsules or in emulsion in doses of 4 to 6 minims; or externally in five per cent solutions.

TERPINE.—$C_{10}H_{16}(OH)_2$. Aq. The hydrate of terpine is obtained by the action of alcohol, nitric acid and oil of turpentine upon each other. It occurs in white, odorless, rhombic crystals with a faintly aromatic taste. It is soluble in alcohol and boiling water but only moderately so in cold water, benzene, turpentine and carbon disulphid. It has antiseptic and expectorant properties, it is said. It has been recommended for use in bronchitis and whooping-cough. It is given in doses of 2 to 6 grains, preferably in tablets or in alcoholic or syrupy mixtures.

THALLINE.—$C_9H_{10}N(OCH_3)$. This substance is also termed *Tetra-hydro-para-methyl-oxy-chinolin* and *Tetra-hydro-para-chinonisol*. It is formed by heating acrolein and para-amido-anisol together with some oxidizing agent. At ordinary temperatures it is a liquid which forms, when cooled, a yellowish-white, crystalline powder with a bitter, saline taste and a peculiar somewhat aromatic odor. It is soluble in water; its two chief salts, the sulphate and the tartrate, which are used in medicine, are soluble in water and slightly so in alcohol. Wood speaks very briefly but also very unfavorably of the substance. It has been used in gonorrhea, in one and a half per cent injections and two per cent bougies, with apparent success.

THILANINE.—This substance is a sulphuretted lanolin produced by the action of sulphur upon lanoline and containing about three per cent of sulphur. It is a yellowish-brown substance resembling vaseline and devoid of irritating properties. It has been used locally in dermatology, being designed to replace ichthyol and thiol.

Fox, after experience with the medicament, concludes that it possesses no single advantage over the remedies commonly used. It is objectionable, however, on account of its color, odor and high price. It seems to have received little or no attention during the past year and has probably passed out of use.

THIOL.—Thiol is a mixture of sulphuretted hydrocarbons, it is an artificial substance designed as a succedaneum for ichthyol; this latter substance is obtained by the distillation of a bituminous oil, it contains ammonium and probably also sodium ichthyo-sulphonate,—it is used chiefly in dermatology, having no active germicidal properties though said to have the power of arresting the growth of bacteria. Thiol occurs in two forms; one, a liquid, which exists as a thin, brownish extract slightly heavier than water and is not the purified product, it is therefore cheaper and oftener used; the other occurs as a fine brown powder, or else in scales. It is soluble in water, especially in the presence of glycerin. The substance is chiefly used by dermatologists and gynecologists. Reports as to the results of its use indicate that it is free from odor and irritating properties, does not cause bleeding from raw and eroded surfaces, promotes absorption of effusions—and indeed has such advantages over ichthyol itself that it bids fair to displace the latter substance. Thiol may be given internally in doses of one and a half grains; locally it may be applied as a dusting powder, or else in ointment or else in solutions of 10 to 50 per cent strength.

THIOPHEN.—C_4H_4S. This substance is a sulphur derivative of benzene. Indeed Meyer has pointed out the fact that it occurs in all of the commercial benzenes derived from coal-tar. It may be isolated by agitation with one-tenth volume of concentrated sulphuric acid. The substance occurs as a clear, colorless and volatile oil which is insoluble in water.

Thiophen itself has been but little used in medicine, but its derivatives, lead and sodium thiophen sulphonate (which see) and thiophen di-iodid, have been favorably reported on from Kaposi's clinic in Vienna.

Thiophen di-iodid ($C_4H_2I_2S$) occurs in beautiful, small, crystalline tablets which are volatile at ordinary temperatures and which are also insoluble in water; the com-

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pound has been used as a substitute for iodoform, being employed in all conditions in which iodoform would be considered indicated. Hock, of Vienna, says that its use in the powder in surgical dressings seems to retard the formation of pus and to prevent the occurrence of of exuberant granulation. It is used in the form of a dusting powder, or else in gauze. Its freedom from objectionable odor and its non-toxic and non-irritating properties have been demonstrated by clinical experience.

THIORESORCIN.—$C_6H_4(OS)_2$. This substance results from the combination of resorcin, sodic hydroxid, sulphur and hydrochloric acid. The product occurs in the form of a flocculent, grayish white, non-irritating, tasteless and odorless powder which is insoluble in water but slightly soluble in alcohol and ether. It has been suggested and employed as a substitute for iodoform and has been used as a dusting powder, especially in the treatment of ulcers of the leg.

THYMOL.—$C_{10}H_{13}OH$. This substance is obtained from the volatile oils of thyme and other plants. It occurs in large, transparent plates or in acicular crystals which are insoluble in water but soluble in the fatty and essential oils. It has been used by inhalation in pertussis and various pulmonary affections; it has also been employed internally in various gastro intestinal diseases and in rheumatism. It is said to have given good results in the treatment of wounds, skin diseases and various affections of the mouth.

This product was introduced into medicine by Ranke of Halle, in 1878, and was much lauded on account of its comparative freedom from poisonous and irritating properties, but clinical experience has in nowise warranted the brilliant expectations, they have not been fulfilled. A five per cent solution does not destroy anthrax spores, even in fifteen days' exposure to its action, as has been demonctrated by Koch; but their development is somewhat restrained by 1:80,000 he states. Yersin found that the substance itself required three hours to destroy the tubercle bacillus. Behring after careful investigation, pronounces that it possesses four times *less* germicidal power than carbolic acid, and yet Ranke fondly believed it to be a formidable rival of the latter. Miquel has determined that it is antiseptic in the proportion of 1:1340.

TIN CHLORID.—This substance, in one per cent solution and acting for two hours, destroyed the bacteria of of putrefying bouillon, but an .8 per cent solution failed to accomplish this.

TOBACCO SMOKE.—Tassinari demonstrated that tobacco smoke possesses the power of restraining the development of bacteria—especially certain species, as Friedlaender's bacillus and the spirilla of cholera, which fail to develop after exposure for half an hour to an atmosphere of tobacco smoke.

TUMENOL.—This is a comparatively new compound which is produced by the treatment of the unsaturated hydrocarbons of mineral oils with sulphuric acid, and is closely allied to ichthyol. It occurs as a dark-brown fluid which Neisser, of Breslau, seems to consider an efficacious compound. He says that the substance and its compounds, whose action seems to be chiefly superficial, owe their virtues to their strong reducing properties rather than to the sulphur in their composition, which latter is true in the case of ichthyol. It has been recommended in pruritus, moist eczemata, etc. It has, however, no antiparasitic or germicidal powers and hence is of no service in erysipelas. But little has been heard of the substance in this country as yet.

VALERIANIC ACID.—$HC_5H_9O_2$ or better C_4H_9COOH. This acid is an oily, colorless, liquid with a penetrating and characteristic odor; it is but slightly soluble in water but is soluble in alcohol. It is found in valerian and angelica root but is generally prepared by the oxidation of amyl alcohol. Koch found that a five per cent solution failed to destroy anthrax spores even after five days' exposure.

XYLOL.—C_8H_{10}. Also termed *Xylene* and *Di-methyl-benzene*. This substance, as its chemical formula indicates, is a hydrocarbon and resembles benzene. It is said to possess antiseptic properties and application has been made of this fact, especially in the treatment of variola. The dose, when adminsstered internally, is 30 to 45 grains given in wine.

ZINC CHLORID.—$ZnCl_2$. This substance, which is used in concentrated solution as an escharotic or caustic, also possesses antiseptic powers. Koch found that it had little or no effect upon anthrax spores, however, for such spores germinated even after thirty days immersion in a five per cent solution. A five per cent solution successfully destroyed the spores of *Bacillus subtilis*. A two per cent solution destroyed pus cocci in two hours while a .5 per cent (1:200) solution destroyed the *Micrococcus Pasteuri* in the same time. Miquel has determined that the substance is antiseptic in the proportion of 1:526.

ZINC-MERCURIC CYANID.—$Hg(CN)_2.4Zn(CN)_2$. This substance occurs as a white powder which is practically insoluble in water. It has been highly recommended as a non-irritating antiseptic but its use has not become general. Until recently it was the favorite antiseptic used by Sir Joseph Lister, the "Father of Antiseptic Surgery"; more recently, however, he has repudiated all antiseptics with the exception of carbolic acid—this he deems the antiseptic *par excellence*. The chief objection to zinc mercuric cyanid is its feeble germicidal power, owing what virtue it possesses to its inhibitory power. (See "Mercury.")

ZINC SOZOIODOLATE.—This substance is the zinc derivative of sozoiodol (which see). It occurs in the form of acicular crystals which are soluble in water in the proportion of 1:20. It has been used in acute and chronic blenorrheas and also in acute inflammatory conditions of the naso-pharynx. In gonorrhea it is employed in aqueous solutions of strengths of .5–1.5 per cent, to which either laudanum or salicylate of bismuth may be added.

ZINC SULPHATE.—$ZnSO_4$. This substance occurs in

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crystals or crystalline masses which are readily soluble in water. The product is used chiefly as a mineral astringent or an irritant emetic. Some physicians have attributed antiseptic or germicidal powers to it. Koch found that anthrax spores germinated even after ten days immersion in a five per cent solution. Micrococci from an acute abscess resisted the action of ten to twenty per cent solutions even after exposures of two hours—the *Micrococcus tetragenus* was killed however. A careful consideration of all of the experimental data at our command leads us to the conclusion that the substance has very feeble, if any, germicidal power.

Zinc Sulphocarbolate.—This substance is the zinc salt of sulphonic acid, also termed sulphocarbolic or phenyl-sulphuric acid. (See sulphocarbolic acid). This salt was at one time highly vaunted as an intestinal antiseptic. Koch found that a five per cent solution failed to destroy anthrax spores even after five days exposure—the sodium compound was equally worthless, even when applied for a greater length of time.

Zinc Sulphydroxid.—$Zn(SH)_2$. Theoretically this substance is the hydroxid in which the oxygen of the radical hydroxyl has been displaced by sulphur. Zinc sulphydroxid occurs as a white solid which readily decomposes in the dry state and is therefore frequently preserved by immersion in water. It has been employed both internally and externally. Its use in external treatment has been chiefly in such conditions as psoriasis, eczema and various dermatoses of a vegeto-parasitic character. It can be used externally in the form of an ointment of the strength of ten per cent. Internally it is administered in doses of one-half to two grains, usually in pill form.

[to be continued.]

Woman in Medicine.

by F. W. Abeken, M.D., St. Louis, Mo.

Read before the St. Louis Medical Society, May 12, 1894.

Woman is Not Fit for the Practice of Medicine!

Many arguments have been advanced in contradiction of this, strong and weak arguments, the strong arguments generally with the secret stamp of masculine make on them, the weak ones, well, the weak ones without any stamp. It will be necessary to consider only the stamped ones.

All of these strong arguments may be summarized in the one, based on the alleged axiom, that equal duties convey equal rights. If a man perform all the duties of a citizen, he is entitled to the right of voting and of being voted for; therefore, if a woman perform the same duties, she is entitled to the same rights. If a man have concientiously performed the duties of a medical student, he is entitled to the priveleges of a doctor of medicine; therefore, if a woman have performed the same duties, she is entitled to the same privileges. (Who does not recognize the secret stamp here, in spite of the flaw in the argument?) As far as the chain goes, every connecting link is perfect—but how about the initial link? What determines the right of the citizen or of the student to take upon himself the duties of citizenship or of study? The mere ability and offer to perform these duties can not confer this right. Is it right to send a child to the drudgery of a factory, merely because it is able to do work there? We do not give an intellectual giant a bottle of whiskey and bid him protect our streets at midnight, and we do not give our burly policeman a bottle of ink and bid him burn the midnight oil; though both by strenuous efforts might make a creditable show at performing these duties, such diversion of energy from its proper chanel would constitute a waste of energy and be a wrong in Nature's economy.

Thus, man derives his right to citizenship and to the practice of medicine not merely from his ability, but from his inherent fitness for these duties, as shown by the fact, that he himself has created the political and medical sciences. Have we any warrent that woman possesses such fitness? Are we assured, that to train woman for political and medical work, is not a waste of energy and a sin against the laws of Nature?

Everything in Nature is the result of the influences bearing upon it. Man's fitness, his right for the work in question, is the result of the influences bearing on him in the place, which he occupies in Nature. Woman's place in Nature, therefore, will determine whether her "fitness," her "rights" are equal to or different from those of her brother, man.

Modern research enables us to take a broad view of the matter. (It would be tiresome to here mention everytime, the sources of information, but they will be stated to anyone, who desires to investigate them.)

Investigation, then, shows by the evolution of the sexual principles, by the history of woman, and by her present anatomy, the trend of her destiny and the logic of what she must do, because she is best fitted to do it, and of what she must not do, because some other agent is better fitted to do it.

Beginning in the scale of animal life, where in the course of evolution the sexes begin to differentiate, we find numerous examples of female supremacy. Many female Cephalopodes carry their males,like parasites, in or on their bodies. Certain of the Cryptophialus and Alcippe, whose sexes are distinct, and of Ibla and Scalpellum, which yet are hermaphrodite, present, besides the regular male individual or organ, small so-called supplementary males, which live and love, often two or three at a time, on the inside of the shell. A most curious case of female supremacy is shown in Trichosomum crassicauda, a parasite found in the bladder of the rat. The male of this invertebrate lives in the ovary of the female, surrounded by the ova, which he is to fructify. The female supremacy with bees, wasps and ants is a familiar fact, as is the peculiar

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marital relation of spiders. Da Geer, a concientious philosopher of the old school, states in his Entymology, he had seen a spider of the female persuasion rudely seize her liege lord in the midst of his amatory dalliances and incontinently devour him—which, he adds, very much shocked his sensibilities and filled him with indignation.

As with insects, so with reptiles, fish and snakes. As a rule the female individuals are large and stronger than their mates, though the difference is here already much less than in the lower orders.

With birds, the supremacy of one sex occurs about as often as the supremacy of the other. Female birds of prey are, as a rule, larger and stronger than their males. The female emu is stronger and more pugnacious than her consort, and leads him a "dog's life." The female Sunda quails are masters in matters sexual and fight with one another to a finish for the possession of a male, who placidly sits by and abides the result. On the other hand, we are all acquainted with the superior accomplishments of Drake and Chanticleer.

With mammals, either an equality of the sexes or, more often, a supremacy of the males (but not the reverse), is a rule too well known to require exemplification.

This much shows, that evolution trends towards a perfection of the male for the strife and struggle for subsistence, from the nil of the worm in the rat's bladder to the majesty of the lion, the lord of his family. It also goes to show a progressive restriction of the female to the functions of breeding and rearing the young, evidently, because the increasing complexity of organisms increases the difficulties of breeding and providing, and, therefore, necessitates a division of labor.

In the history of the human race we can recognize an extension of the same principle.

Some of the earliest traditions of man are tales of large and powerful states, which were ruled by woman with a female soldiery and in which man, if tolerated at all, constituted an entirely subordinate caste. The fact, that some of these states did not shun an encounter with such a virile nation, as the ancient Greek, and that some of their wars were considered of sufficient import, to be immortalized in verse and marble by the masters of the age, is evidence of their great extent and power. We are told, that a tribe of Amazons, living on the shores of the Euxine, at one time conquered all Asia and founded such great cities as Smyrna and Ephesus. We hear of an African queen, Myrina, who conquered with female warriors the Gorganes and the Atlantes and held their territories, Arabia and Egypt, until driven out by Hercules. Mention is made of such great woman states in the adventures of Hercules and Theseus with Hippolyta and Menalippa, of Penthesilea at Troy, of Thalestris, who travelled a great distance to procure offspring from Alexander the Great.

In legends like these, the dying echoes of life and strife at the dawn of civilization, we can recognize, though obscured by the ivy of romance, certain indications, that at some time in the dim past, a fierce struggle of the sexes took place for supremacy, which eventually resulted in the subjugation of the female. This supposition is strengthened by observations made of the habits of those contemporaneous peoples, who still occupy that plane of civilization, which our ancestors occupied before history recorded the doings of man.

In 1859 there existed in Central Africa a State in which, under the rule of a queen, Gingha, all the men were held in actual slavery. The female warriors of the Ashantis and Dahomians, enjoy world-wide fame for endurance and ferocity. In Kamshatka the supremacy of woman is still undisputed; and among the Afghans in India is an independent tribe, in which the women do the hunting and fighting, while the men stay at home under a strong female guard—for their protection and to prevent ungentlemanly insubordination. In Bantam on Java, the king is, indeed, a man, but he is entirely under the control of a cabinet, composed of three women, and all his officers of state and at court and his entire army are women. The men can become only peasants and traders. The crown is hereditary, but in case of no issue, 100 female electors give the succession to one of their sons. (Our most exciting political campaigns must appear tame beside one in Bantam). Similar conditions obtain with the Morotokos in South America. With our Hurons and Cherokees inheritance descended the female line, and national life centered, not in a patriarch, but in a matriarch. A domination of the female principle will also be recognized in polyandry, which is, indeed, rapidly disappearing with the spread of civilization, but which, like cannibalism, was within the memory of man a widespread institution with the peoples of the Sandwich Islands, the Marquesas, Ceylon, Kashmir and, notably, the Jounser district of the Himalayah.

Thus, in the light which archeology and popular tradition throws on the beginning of society, and from present observations it appears, that at first, when rearing the young was a simple matter, society commenced as a gynaikokraty, with the rule of woman. Subsequent history, however, shows that as civilization developed and the pursuits of man became more numerous and diversified, and as consequently the rearing of the young, the preparing it for the duties of life, required more skill, woman became more and more restricted to this latter duty, while to man fell that strife and struggle, which, in the present highest state of civilization, takes the form, not only of mastering the arts and sciences, as known, but of consciously, purposely developing them.

In this her share of the world's work, woman's anatomy has developed correspondingly, so that in this development we can also trace the direction, in which her faculties have hitherto developed instinctively and in which she should now cultivate them consciously.

That the osseous and muscular system of woman may develop sufficiently for the performance of any physical

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labor, as well as that of man, is indisputable. In many parts of the world, in France, in Germany and in Scot land, where the women do the same kind of work in the fields that the men do, they have become physically as strong as the latter. A government report states, that in Pesth 35,000 women earn a livelihood as common laborers. But it is also indisputable that, as a rule, the caucasian female is weaker than her male. This alone would bar woman the right of suffrage, as voting, the counting of noses, is merely a humane expedient for the counting of fists, and woman would have to be prepared at all times for an appeal from the one to the other and to put up two fists every time she casts her one vote. A more significant difference is found in the development and present state of woman's brain, when compared with that of man. The average of a large number shows the capacity of male European skulls to be 1,446 c.c.; that of females to be 1,226 c.c.,—a difference of 220 c. c. Mensuration of a large number of such brains shows the ratio of male and female brain surfaces to be as 1,000 is to 878. The average weight of the male brain exceeds the average weight of the female brain 134 grms.,—about a teacupful in volume. The ratio of the average weights is as 100 is to 90 in favor of the male. The measurable difference in the brains of sexes in Europe is least with Gypsies, gradually increases with the French, the Laplanders, the Swedes, the Italians and the English, in the order stated—evidently with the grade of civilization, if we avoid the common mistake of considering Paris, France.

But the biggest noses do not always do the best smelling, and absolute size is not of necessity a gauge of function, otherwise the whale would be the most intelligent of animals. Therefore, the relative size of brain to body has been investigated, with the result, that, contrary to the opinion first expressed by Darwin, woman is proven to possess slightly more brain than man, in proportion to body weight. But the brain is a very complex organ. In it are various motor and sensory centers, which have little or nothing to do with ideation and upon which intelligence is not directly dependent. Comparing, therefore, in the sexes, those portions of brains which localization seems to indicate as the seat of intelligence proper, that is, not the grey matter indiscriminately, but the front portions with their covering, we find that those of women are less developed, than those of man, so much so, that the external shape of the skull often is an index of the sex. This appears again in our universal conceptions of beauty in man and woman. A low brow and not a very high one is considered beautiful in woman, whereas a high brow and not a low one is the stamp of manhood.

Those close observers of Nature, the great sculptors of ancient Greece, represented their ideal types of female beauty as comparatively low browed, while in the broad, towering forehead of Zeus, they expressed the highest order of intellect, the sublime majesty of the universe.

Comparing the brains of different races, we find the sexual difference (in brains) decrease with the degree of civilization which a race possesses, until at its lowest stage, as with the remnants of certain evidently autochtonic races in Africa, races not quite extinguished by the immigration of superior ones, the difference becomes almost imperceptible.

Woman's present anatomy, then, shows clearly that her chief duty to day is not the pursuit of knowledge, but the breeding and the rearing of the young. This has become to-day an arduous, important task, requiring a high order of skill and intelligence, as high as that of man, but of a different kind. In order to accomplish her great task in a satisfactory manner, in order to be not merely the household drudge and the nine months breeder, but the nine year—yes, nineteen year guide and the lifelong companion of man, she must make herself familiar with all his endeavors and achievements, without concentrating her efforts on any one of them, as is required for the study and exercise of politics and medicine, and reserve a concentration of her energies for that sphere, which the evolution of her sex, the history of her sex, and the anatomy of her sex so clearly indicate to be her own—she must make her manifest duty her specialty. These conclusions agree with prevailing popular opinion.

There is with both sexes a general sentiment that certain pursuits of man are not fit for woman to actively enter upon, *i. e*, politics and medicine; though there is some controversy upon the subject. Woman's oppression in the past, has been urged as an excuse for her present mental inferiority, but an excuse is not called for—it stands there simply as a fact and as an indication of her place in Nature. We have, indeed, some few examples, where woman has mastered the arts and sciences of her age. But how many women have invented a new art or a new science? Woman can not even invent new fashions for herself, man must do it for her. A woman will certainly remain a woman, if she break rocks, read law or kill herself sewing shirts. But will she attain the perfection of womanhood more readily in the pursuits of man, than in those Nature has intended her for? It is contended that woman may do something better than breed and rear the young. But even granting she can, and supposing she does, who is to do the breeding in that case? Man? There are on earth no more superfluous women than men. The numerical difference of the sexes is very small. Every Jack has his Jill. If every woman would become the intelligent helpmate of some man, the intelligent mother of children, she could not and would not wish to become anything else. Moreover, there would be an end to that most pestiferous form of polyandry, the social evil of to-day.

In this vein some controversy is going on, but the general sentiment remains, as stated. This sentiment is that, though woman *can* speak from the kustings and *can* jostle to the ballot-box; though she *can* memorize anatomy, *can*—like some men—prescribe medicines of of which she knows little, for diseases of which she

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knows less and still look wise; though she *can* catch a spouting artery and remove diseased and healthy ovaries—(it takes no more time and effort to master the mere technique of surgery, than to acquire the mere skill of a blacksmith or a milliner)—that though she *can* do all this, she *may* not do it, because she seems still to lack something to mark successes in such undertakings. Closer scrutiny reveals that she lacks, at least, that one essential faculty, that mental momentum, that inexorable devotion to logic, that inventive power, which is necessary to prevent the sciences from becoming mere codes of dogmas and to render them as truly progressive, as they should be.

The causes of this modern craze, to push woman out of her proper sphere into that of man, need only be understood to perceive that this movement is indeed a craze and not a legitimate step in evolution. It is a symptom of a morbid condition of society. Every age is apt to believe itself the end of one and the beginning of another epoch. But, guarding against this error, there is to-day apparent a general, international unrest of the masses, which seems to forebode an epochal unheaval, an epochal shaking up of the long established order of things—not mere Coxeyism, not a mere civil war, nor a war between two nations, but a cataclysm like that which twice swept away a world's empire at Rome.

Various causes—a defective system in producing, the "grab as grab can" principle in the distribution of the wealth of nations—have brought to pass a concentration of the economic forces, of the money power, which, in the hands of a few, threatens to become more tyrannical, because more secret and less easily understood, than ever was the concentration of political power in the hands of a Cesar or a Louis XIV. Like every other disobedience of the laws of Nature, this one also has engendered its own penalty and has developed a pestilence, which punishes alike the guilt of commission in the few and the guilt of omission in the many. This modern pestilence, commercialism, threatens to blight the noblest aspirations of man, to pervert high minded ambition to grasping greed, the healthy emulation of man to advance himself with his race to a sordid tussle for bread and wealth, in which man has become pitted not alone against man, but in which man is forced into an unnatural competition with the inanimate creations of his own ingenuity, machinery, with the labor of his own children and with the labor of woman—his mother, his wife, his sisters and his daughters.

This is evidently the cause, but certainly not the justification, of woman appearing in the world's arena for men.

There is only one code of just laws—it is the book of Nature. Whenever man, whether as statesman, though inspired by sincere patriotism, whether as prophet, though sincerely convinced of his inspiration by some divinity, formulates laws which do not correctly interpret the laws of Nature, injury has ever resulted in direct proportion to the error made. Therefore, let us especially the doctors, the teachers of health and happiness, carefully study the laws of Nature before we translate them into the human terms of laws and customs, and, if we do this, we shall read, that the path of woman is parallel, but not the same as that of man; that woman is, indeed, the equal of man, so far as the order of her gifts and the importance of her duties are concerned, but that her gifts and duties are not the same as those of man; that the efforts of woman are perfectly justifiable to make herself economically independent of man, so that she need not marry a man nor be compelled to persist in a mistake, she may have made in the selection of a mate, for her feed, but that the pursuits open for woman for this purpose are not those which require a life's devotion, which, like the practice of medicine, require study to become the chief occupation, but those which, she may readily quit or resume, as the vicissitudes of life divert her or not from her chief duty in Nature, the guardianship of the future of our race. We shall read, that woman is fit to bear in her womb, to nurse at her breasts, to teach at her knee and to comfort in her home this promise of the future, because she is most fitted by Nature to do so; but we shall also read, that woman is not fit, because not most fitted, for the elaboration of the arts and the enlargement of the sciences, though she is entitled to the blessings of both; that woman is not fit for the dangerous experiments, necessary to perfect "the art of living together without fighting"—not fit for politics, and that, though there be money in it, woman is not fit for the practice of medicine.

To Avoid Colds.—There is one very simple way of avoiding colds—keep your mouth shut when out of doors. The man or woman who comes out of an overheated room, especially late at night, and breathes through the mouth, will either catch a bad cold or irritate the lungs sufficiently to cause annoyance and unplesantness. If people would just keep their mouths shut and breathe through their noses, this difficulty and danger would be avoided.

Chills are often the result of people talking freely while out of doors just after leaving a room full of hot air, and theater-goers who discuss and laught over the play on their way home are inviting illness.

It is, in fact, during youth that the greather number of mankind contract habits of inflammation which make their whole life a tissue of disorders.—*Good Health.*

We are Pleased to note that Wm. R. Warner & Co., Pharmaceutical Chemists of Philadelphia, have been awarded a silver medal at the late International Medical Congress at Rome. This is a great compliment, one which this reliable and enterprising company well deserves, for certainly there is no more reliable products manufactured in the United States than those made by this firm which the profession readily recognize. "Honor to whom honor is due."

EDITORIALS

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TO CONTRIBUTORS AND CORRESPONDENTS.

All letters whether intended for publication or not must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of the meeting of their respective societies, and of officers elected.

Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

Communications and medical books for review should be addressed to the editor, 914 Locust st. That intended for the Veterinary Department to T. E. White, D.V.S., Sedalia, Mo.

All letters containing business communications or referring to the publication, subscription, or advertising department of the REVIEW, should be addressed to 914 Locust Street, St. Louis.

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New Medical Societies.

It is a natural wish and a duty of doctors to exchange ideas and discuss medical subjects, and any unselfish effort in furthering scientific discussion has our hearty approval.

There have been rumors, however, that an attempt will be made by certain individuals of a shady record to rehabilitate themselves in the American Medical Association by means of founding new societies. While we are unable to state in how far these rumors are based upon well authenticated facts, the numerous attempts made to create new medical societies, notwithstanding the total failures of previous endeavors, seem to furnish at least a shadow of a justification for such rumors and, although a watchful eye has been and will continue to be kept upon all machinations of this nature by the better element in the profession, particularly by the stalwart pillars of our ethical code, the mania of forming new societies, with the apparently obligatory flourish of trumpets, does not seem to be influenced by previous experiences.

A great deal of good work is done and innumerable interesting and instructive specimens are presented at the St. Louis Medical Society; many of the papers and discussions are valuable and its able President, Dr. W. B. Outten, is equal to any emergency; moreover, there are in St. Louis already seven medical societies—not including irregulars—besides the St. Louis Microscopical Society, which is practically a medical society also; nevertheless there may be room for other societies. But, the younger and inexperienced members of this old and reliable body, the St. Louis Medical Society, should carefully consider, whether the new society they may contemplate to join has for its main object the discussion of scientific subjects, or whether it has among its members individuals that are not eligible in societies recognized by the American Medical Association, and that are possessed by a mania of creating new societies from purely selfish motives and for the purpose indicated above.

St. Louis can boast of having the greatest number of medical colleges of any city in the world, Chicago included, and it will soon have the greatest number of medical societies.

A great deal of amusing reading matter has already been disseminated among the public; how much more could the latter be amused by the ridiculous distortions of the newspaper reporters, when some of the new societies will be in working order!

Small-Pox.

There is a wider spread of small-pox in the United States than has been the case for many years and State boards of health are active in preventing any further extension of the disease by urging people to be vaccinated. From January 1, 1894, to May 9, 1894, small-pox has been reported from States (and neighboring provinces) as follows:

Province of Ontario: 8 cases in two localities, all recovered. Province of New Brunswick: one case at Sussex. Connecticut: 26 cases in six localities. Illinois: 1,225 cases in fourteen localities, 1,210 cases at Chicago. Indiana: 24 cases in seven localities. Louisiana: Small-pox at New Orleans. Maine: One case at Bangor. Michigan: 21 cases, including five deaths, in eight localities. Massachusetts: 47 cases since September 21, 1893. Maryland: Five cases now at Baltimore. Minnesota: Six cases in two localities. New Hampshire: One case at Portsmouth. New York: 123 cases, New York City 43, Brooklyn 60, and 20 cases throughout the State. North Carolina: One case at Wadesboro. Ohio: 19 cases in nine localities. Pennsylvania: 792 cases in twenty-three localities, 719 cases at Reading since outbreak in February, 1893. Rhode Island: One case at Providence. Texas: One case at San Antonio. West Virginia: Three cases at Lewisburg. Wisconsin: 23 cases in 12 localities, and small-pox at eight other localities. Total, at least 2,329 cases (a few were in 1893), in 103 localities (besides those in New York and Massachusetts) in eighteen States and two Provinces.

In a circular sent us through the kindness of Henry B. Baker, Secretary of the Michigan State Board of

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Health, the following practical advice is advocated:

"Because of the occurrence of small-pox and the possibly increasing proportion of unprotected inhabitants, unusual watchfulness should be maintained, and suspicious cases carefully isolated, that all persons exposed directly or indirectly be promptly vaccinated, and all infected material destroyed or disinfected.

"Physicians often diagnose small-pox as chicken pox. All cases of eruptive disease, such as chicken-pox, roetheln, etc., should be isolated until it is *known* that that the disease is not small-pox. If physicians and health officers will do this every time, the danger of spreading small-pox will be greatly diminished.

"Upon the discovery of a case of small pox, prompt action should be taken. Isolate the patient. All who have been exposed, or believed to have been exposed to the disease, should be isolated until their clothing, hair and beard have been disinfected and their persons bathed. Persons exposed to the disease should be kept under serveillance at least fourteen days. Vaccinate all persons who have been exposed, and especially all nurses and attendants, using virus known to be fresh.

"The Health Officer and every physician should be immediately vaccinated, if not recently successfully vaccinated. After visiting a small pox patient, the health officer or physician should have a thorough change of clothing before seeing any other person. The clothing should be disinfected by fumes of burning sulphur, in a tight box or room, burning sulphur at the rate of three pounds to each 1,000 cubic feet of air space. The exposure to be for at least three hours. When changing the clothing the physician or health officer should have a thorough bath, and disinfect his hands, hair and beard. For this purpose physicians sometimes use a solution of mercuric chloride, one part to one thousand of water or cologne. The hands of nurses may perhaps be disinfected by washing in a solution of chlorinated soda."

A Tribute to the Medical Profession.

The rapid strides made by the science of medicine within the last few decades have naturally attracted the attention of the educated classes and have been commented on at various occasions by men in the most honored positions outside of the medical profession. At a meeting held in London in memory of the late Sir Andrew Clark, Mr. Gladstone offered a resolution in honor of his memory, in which he said:

"The medical profession itself is one with regard to which it is impossible, I think, not to be conscious that, great as has been its position in our generation and some generations previous, it is a position continually advancing and continually rising. In truth, if we go back some distance, we find that the other learned professions, as they are sometimes called, undoubtedly had a start of the medical profession. I think, as much as four or five hundred years ago, in the first beginning of the commerce of this country, the lawyers in scores and hundreds sprang up, I might almost say like mushrooms from the ground, to dispose of the disputes which necessarily arise wherever property has been brought into existence. At that time medical men had hardly been heard of. But the position of the medical profession to-day is becoming one of vital and commanding interest to the whole of society, and I anticipate that that interest must continue. While wealth increases, while inventions and discoveries increase, wants will increase and enjoyments will increase; and, in connection with those wants and enjoyments there will, I fear, be a corresponding increase of infirmity and disease, and the medical profession braces itself to grapple with the situation which has been created, and continually advances in knowledge and in competence. My own life has been long enough to enable me to witness, and in some degree to measure, the change that has taken place. I have had the honor of knowing many eminent and distinguished men in the profession during the last three score years, and I have seen also great charge in capacity, in attainment, and in competency to deal with the difficult, the almost insoluble, problems that are continually presenting themselves to the mind of the medical man. Well, Sir, it appears to me that it was eminently desirable that, in a time like this, a man like Sir Andrew Clark should rise to the head of the profession—for, after all, we require something more than knowledge, something more than skill; we require great devotion to the cause of the profession; and that devotion was never, I think, exemplified in a more remarkable manner than in the career of Sir Andrew Clark. When he had been spending his well earned vacation at a residence he temporarily occupied in Scotland, and when the few weeks he had allowed himself for retirement were nearly exhausted, a friend came, and, supposing he was paying him a compliment, said, 'I condole with you, Sir Andrew Clark, on the close of your vacation.' Sir Andrew turned and said, 'Sir, I love my profession.' He did love the profession. His whole heart and soul were in the profession. He loved it not only with sincerity and cordiality, but with a chivalrous devoton. We need not say the age of chivalry is altogether past, so long as we have among us—and I trust we may still have among us—men of the type of Sir Andrew Clark."

To this high tribute to the illustrious dead as well as to the medical profession, the *Medical Record* very pertinently remarks: "Such words as these, coming from a person of a mind so broad and experience so vast as that of Mr. Gladstone, give encouragement and renewed zest to all physicians who, like Sir Andrew Clark, love their profession and believe in its present greatness and future advancement."

Value of Vaccination.

According to a statistical study by Prof. Welch, based upon the observation of 5,000 cases of small pox

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that have been under his care at the Municipal Hospital for infectious diseases in Philadelphia, the proportion of deaths among the vaccinated increases with the length of time that has elapsed; after fourteen years the deaths being about nine per cent of those who showed a good mark. After re vaccination, death occurred in a smaller proportion of cases than after a previous attack of small-pox, and not at all in those who showed good scars.

As to second attacks, Welch has never seen an unmodified or severe case of small-pox in a person who was deeply and characteristically pitted from a previous attack, and during a service of over twenty years, no person was admitted a second time for any form of the disease.

In view of the recent increase of small-pox in this country, Rausch calls attention to the value of vaccination. In the epidemic that occurred in Illinois twelve years ago, among the vaccinated the mortality was six per cent, and among the unvaccinated forty-nine per cent. In the European countries, where vaccination is optional, the number of deaths from small pox ranges from 157 to 583 per million, while in Denmark, Sweden and Norway, where it is compulsory, no deaths occurred during the same period, and in the German Empire, only one or two in a million.

A Wise Law.

A law recently enacted by the State of New York provides for the appointment of a commission, consisting of a physician, a veterinarian, and three members of the State Dairymen's Association, to report in regard to needed legislation on tuberculosis in cattle. The sum of $9,000 is appropriated to meet the commission's expense.

CORRESPONDENCE

Dr. Paquin's Paper—"The Basis of Personality and the Responsibility of Criminals."

Editor MEDICAL REVIEW.—Dr. Paquin's paper, and the subsequent discussion on "The Basis of Personality and the Responsibility of Criminals," as reported in two recent issues of the REVIEW, have brought out facts of paramount importance, viewed either from a medical, legal or social standpoint.

It appears established beyond room for doubt, that character is the result of heredity and training. The controversy seems to hinge upon the relative importance of these two elements. Dr. Love's statement that heredity and environment are equally responsible in the molding of character is perhaps true, generally speaking; but when we observe individual cases there is evidently great diversity in the proportionate relation sustained by these two factors. In one case the extrinsic influences may be so diversified and antagonistic in their nature as to counteract each other to a considerable extent; consequently the character developed under such circumstances depends largely upon heredity, and approximates that of his parents.

Again, a child of moral parents may, from birth, be subjected to influences which tend to develop and foster the baser propensities and to stifle the higher sentiments, and the result may be a criminal, in which case training and not heredity is principally responsible. We believe, however, that in every instance the impress of heredity differs in *kind* from that of environment; the former being *general*, the latter more *specific* in nature. For instance, a child may inherit a deficiency of will, and unless that faculty be especially cultivated as the individual grows up he will manifest a tendency to follow to excess either natural appetites or those which are the outgrowth of physical or mental depravity. Hence, we so often find drunkards, opium eaters, rapists, etc., in different individuals of the same family. Another individual may come into the world with a strong will but a faulty judgment, when, unless the training be such as to restore the mental equilibrium, we see a man prone to some pursuit, or pursuits, injurious to himself or his fellowmen, or both, and which may be opposed to his own instincts or appetites, which may be normal. In either case, the peculiar habit, or propensity, is determined by outside influences, while a defect which favors the development of one or more of a certain class of perversions of habit or disposition may be inherited. It is not probable that one inherits a special appetite for alcoholics, but he may inherit physical and mental defects which render him peculiarly susceptible to the influences which conduce to the formation of intemperate habits.

In regard to the degree of responsibility to be accredited to any individual criminal, certainly no one would presume to call a man to account for hereditary depravity. But, inasmuch as all intelligent beings have to a certain extent the ability to modify their surroundings according to their judgment, a criminal is responsible for those defects of character which are the outgrowth of his failure to do so; the degree of responsibility in every case being governed by the soundness of judgment, not merely at the moment the act was committed, but at such previous time when the individual has voluntarily subjected himself to such conditions as have produced the present mental aberration, if such is found to exist at the time the crime is committed.

In regard to the remedy for the existing evil, I would agree with Dr. Love in his statement of general principles referring to training, education, punishment, etc., until he comes to his criticism of Dr. Murrell's suggestion in regard to saloons, bawdy houses, etc. Here he goes off—not on a tangent—but in a direction diametrically opposed to that of his former remarks. After

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enumerating the duties of parents to educate their children by example and precept, he about faces and advocates the most diabolical institutions on earth as "necessary evils," denominating as maudlin sentiment that principle which leads to their overthrow. He says, "such institutions are necessary to the safety of our wives and daughters." We are always sorry to hear such views advanced by any one, but especially do we regret that one standing so high in *our* noble profession should take such a position. One might, with equal logic, recommend the establishment of snake harbors in our city parks, with a view to enticing reptiles thither in order that other portions of the city might be safe from them. The serpents not to be confined, but provided a congenial and safe retreat, where they are fed and allowed to propagate their species unmolested. These institutions that Dr. Love thinks so essential as a means of prevention of crime are the nurseries in which are developed and fostered those brutal passions which lead to crime—directly in the present generation —indirectly in their descendants.

I also agree with Mr. Harrison that the influence of pure women tends toward the development of the Dr. Jekyl in a man's nature, and it is equally true that contact with base women is calculated to give Mr. Hyde the supremacy. C. I. PEASE, M.D.

A Case of Protracted Gestation; Delivery on the 461st Day.

Editor MEDICAL REVIEW.—My attention has recently been drawn to a paper read by Dr. H. L Hayes, of Washington, D. C., before the Medical Society of the District of Columbia, on the subject of "Protracted Gestation. This writer has collected a series of cases in which pregnancy extended over the usual period of 280 days. Among them may be cited as remarkable, two recorded by Leishman, accouchement taking place respectively on the 314th and 322nd days; also one by Dr. Chas. Meigs, of Philadelphia, in which gestation was prolonged until the 420th day. Dr. Hayes, after reviewing a number of similar cases, describes one occurring in his own practice, in which the woman was delivered on the 389th day. This example is evidently well authenticated, according to the elaborate researches of the investigator for the purpose of proving it such. In view of these facts the narration of the following case will prove of interest. The patient was delivered at the Female Hospital, after a period of pregnancy lasting, according to a close computation, 461 days.

The following is a brief resume of the case in question:

Josie, F., aged 32, nativity Indiana, was admitted January 16, 1892. This was her first gestation, and her last menstruation occurred August 14, 1891. She had all the objective and subjective symptoms of pregnancy; and a careful examination showed that she was about five months advanced, as far as could be ascertained. Regarding her past history, she began to menstruate at the age of 14, and continued regularly every month, each occurrence lasting four to five days, up to the date mentioned, August 14, 1891. She had suffered from no disease of the general system except those peculiar to childhood, excepting an attack of rheumatism.

Her pregnancy pursued a normal course, and she was delivered at the Female Hospital on November 16, 1892, making the total sum of the days of gestation 461, reckoning from the last menstruation.

This is an unparalleled case, and is therefore in my opinion worthy of record as a unique case of protracted gestation. R. M. KERLY, M.D.

Superintendent St. Louis Female Hospital,
St. Louis, Mo.

The Small-Pox in Chicago.

REPORT TO THE MICHIGAN STATE BOARD OF HEALTH, BY ITS DELEGATE TO A MEETING IN CHICAGO, CALLED AT ITS INSTANCE BY DR. PROBST, OF OHIO, SECRETARY OF THE NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.

The conference of representatives of the states immediately around Chicago was held in Chicago May 9 and 10. The alarming increase of small-pox in Chicago and the increasing danger of its spread to contiguous states was the reason for the conference. The State Boards of Health represented were: Illinois, Indiana, Ohio, Michigan and Wisconsin. The U. S. Marine Hospital Service was represented by J. B. Hamilton, M.D., Ex Surgon General. After the conference had nearly perfected its propositions, concerning what in its judgement should be done at once, the Health Commissioner of Chicago came in, and the propositions were again considered by all present. His name was signed with the others to the propositions agreed to as necessary to stop the spread of small-pox in a large city. If the propositions are all promptly enforced in Chicago it is believed that the epidemic will be promptly stopped. It remains to be seen whether or not they will all be enforced. The propositions adopted are as follows:

"1. The city should be divided into districts containing not more than 10,000 people.

"2. Each district should be placed under the supervision of a competent medical inspector with necessary assistants to (*a*) make a house to house inspection, (*b*) to successfully vaccinate within the shortest possible time all persons who have not been vaccinated during the outbreak, and that the first vaccination be within seven days; (*c*) to properly disinfect all houses, and their contents where small-pox occurs.

"3. Necessary means and appliances for efficient disinfection of materials, premises, etc., should be provided as the exigencies of each district may require.

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"4. Each case of small-pox should be immediately removed to a suitably constructed and properly-equipped and officered isolation hospital.

"5. Except in extreme cold weather, hospital tents, as prescribed in the United States Army regulations, floored and warmed, are preferable to the average hospital or private dwelling, and increase the chances of recovery of the patients. Cases of small-pox necessarily detained in their own homes should, with their attendants, be rigidly isolated during the period of danger, and physicians visiting such patients professionally shall be subject to such regulations as may be prescribed by the local health officer.

"6. Persons exposed to small-pox contagion should be immediately vaccinated, or re-vaccinated, and kept under observation for not less than fourteen days from the time of last exposure.

"7. It is the sense of this conference that where such measures are all enforced, it will not be necessary for neighboring cities and states to exclude all persons who come from such city, who are not protected against small-pox by vaccination, and to require disinfection of all baggage and merchandise capable of conveying small pox infection."

The U. S. Marine Hospital Service has instituted a system of inspection of vessels, crews and passengers leaving Chicago, and vaccination of all crews. A resolution relative to lake ports was adopted by the conference, also one relative to land quarantine, the two being as follows:

"*Resolved*, That no vessel plying on the lakes should be allowed to enter any port within the boundaries of our respective states without having on board subject to inspection a Bill of Health, duly signed by an officer of the United States Marine Hospital Service.

"*Resolved*, That in the opinion of this conference, strict quarantine by land is unnecessary at present, but the question may well be considerered now whether any person from any city where small pox continues to exist in epidemic form, should be allowed to stop in our states without having a certificate of vaccination within the past three years, and that in case of establishment of quarantine, all passengers boarding trains should be informed that unless provided with vaccination certificates from proper authorities, they will be liable to examination and re-vaccination at the State line."

On the invitation of the conference, a meeting was called of the clothing and textile-garment manufacturers of Chicago, which meeting appointed a committee to meet the conference. At that meeting the conference submitted propositions as follows:

Resolved, That this conference respectfully informs manufacturers of clothing, that owing to the prevalence of small pox in certain districts of this city, deep apprehension exists in regard to the possible infection of clothing and textile garments made or finished by persons or families living in said districts, some of whom are in close relation with the sick, either in the same house, or having free communication therewith.

"That in view of these facts, we further inform the said manufacturers that under the circumstances, as above set forth, we shall be obliged to recommend to our several State Boards of Health that no clothing, or ladies dresses or textile garments for sale be allowed to enter, or be distributed within our respective states, except in accordance with the following measures.

"That an efficient daily inspection, with all that such inspection implies, of all places in which such goods are manufactured in the city of Chicago, be established and maintained under the direct supervision of the Illinois State Board of Health, to the end that no such articles from any infected locality shall be put upon the market for sale, or shipment, or be otherwise distributed to the menace of the public health.

"The adoption of the foregoing measure will in our opinion measurably restore confidence, and facilitate trade, but we desire to point out that the continuance of trade will finally depend on efficient general sanitary operations for the suppression of the disease."

The foregoing propositions were accepted by the committee representing the clothing and textile-garment manufacturers. The following day another meeting of the manufacturers was held, when a considerable sum of money was collected, and committees were appointed to collect more, and to see that the measures are carried out.

The state of Illinois has factory inspectors to look after conditions affecting the health of employes, and public health interests. Those inspectors are not sufficiently numerous to do work needed now relative to small-pox, yet they may supply a very well trained and useful nucleus for that service. The Secretary of the Illinois State Board of Health gave the conference emphatic assurance that the work agreed to by the conference and the manufacturers should be faithfully performed, and in the event of its failure to start or of its discontinuance that he would see that the members of the conference have prompt notice.

The final results of the conference are therefore awaited with interest. Respectfully submitted,

HENRY B. BAKER.
Delegate.

Office of the Michigan State Board of Health, May 15, 1894.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, May 12, 1894, the Vice-President, HEINE MARKS, M.D., in the chair.

* * *

DR. MEISENBACH presented a specimen of "Carcinoma

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of the Sigmoid Flexure" which he had removed on the same morning. The following is a history of the case.

Patient was past middle age, and was first seen by Dr. Meisenbach last Febuary, when all symptoms of obstructed bowel were present. He was regurgitating bilious matter, the abdomen was very much distended and tympanitic, and patient was very uncomfortable. He had had, according to the statements of the family physician, repeated attacks of peritonitis. He was removed to the Rebekah Hospital, with the view of undergoing an operation if the symptoms did not subside. They yielded very promptly, after the passage of a large volume of flatus and considerable feces resulting from several warm water injections, administered through a Whale's bougie. After a few weeks the patient left the hospital in a fair condition.

Last Friday the patient had another exactly similar attack. Injections were again tried, and, although the water entered the bowel, only a small quantity of feces and flatus escaped, and there was no amelioration of the symptoms. A slight tumefaction could be felt in the left inguinal region, but could not be definitely located, on account of the distension of the abdomen.

Considering the history, a diagnosis of intestinal obstruction by peritoneal bands, was made.

The patient was operated upon this morning. A median incision was made between the umbilicus and the pubes, large enough to allow the introduction of the hand. Upon passing the hand around in the cavity, the tumor was encountered at the site of the sigmoid flexure. It was freely movable except for its attachment by two bands to the abdominal wall and to the mesentery of the bowel respectively. These bands were cut through and the tumor excisedby transverse incisions through the lumen of the bowel. This was thought advisable, as the tumor was very freely movable and as there remained a suffici ent amount of tissue to allow for an end to end anastomosis, making an ideal colectomy.

The operation was extremely difficult, owing to the location of the tumor and the primary incision. The patient was under the influence of the anesthetic one hour and a half, and is now doing fairly well. A favorable prognosis can not be given at this time, considering the history of these cases.

The tumor is hard, and nodular on the surface, and has projecting from the internal surface, a villous mass which gives it the characteristic appearance of carcinoma. It involved the entire circumference of the sigmoid flexure for about three inches of its length, and almost included the bowel, leaving only a small opening to allow the passage of flatus and thin fecal matter. It is, in all probability, a carcinoma.

* * *

Dr. T. F. Prewitt presented a specimen of "Nephritic Calculus" removed on the third of May, by the lumbar operation.

The patient is 47 years of age, and attributes his trouble to the hardships endured while confined in Andersonville prison in 1864. When released he weighed only 80 pounds, but in two or three weeks he increased to 140 pounds, as he says, by dropsical effusion. At that time his urine was loaded with pus, but he does not remember having had pain. He has never been free from urinary symptoms since, but has had perhaps twenty attacks of ureteral colic, usually followed by the passage of a small, flat, scale-like stone, and a free passage of pus.

Upon examination, the right kidney was found much enlarged, extending down below the crest of the ilium. The urine contained pus in large quantities.

In operating, an incision was made in the lumbar region, and a large pus cavity in the kidney opened up. The stone presented, together with several smaller ones which had apparently scaled off, and was removed. The patient has done remarkably well, has had no rise of temperature above 100°, is ravenously hungry and desires to go home.

This last attack of colic was not followed by the passage of a stone, and, the speaker said, there is probably a small one lodged in the bladder. No extensive examination of the bladder was made, owing to the danger of such procedure where the kidneys are diseased.

Dr. Jacobson asked Dr. Prewitt, how much of the kidney was involved, and why he did not remove it entirely?

Dr. Prewitt answered, that he thought the whole kidney is involved, and did not deem its removable advisable, owing to the greater risk to the life of the patient. Drainage met all the indications, and nephrectomy could be performed later, if at all, when the patient is in a better condition.

* * *

Dr. F. W. Abeken read a paper (see page 434), entitled,

Woman in Medicine.

* * *

Dr. L. H. Laidley presented two specimens of "Cystic Ovaries and Diseased Fallopian Tubes," one of which was distended with pus. These specimens were obtained from the same patient.

She was married, 24 or 26 years of age, and had suffered more or less during the last four years. Menstruation began at the age of 14, and she was pregnant at 14. An abortion was performed at that time, which operation has been repeated several times since. She gives a history of gonorrheal trouble. Four years ago, menstruation became extremely painful, the flow was increased in quantity and duration and there was a leucorrheal discharge during the inter-menstrual periods, which pointed to the existence of an endometritis.

Upon examination, a distinct tumor, about the size of a hen's egg, was found on the right side. Upon operating, both adnexa were found involved. The right tube was distended with pus, and the left was closed at the fimbriated extremity and gave evidence of an old salpingitis. Both ovaries had undergone cystic degeneration. Adhesions were firm in both cases, and the pro-

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duct of ovulation could not pass through the tubes. The organs were of no physiological benefit, and this illustrates a class of cases in which operations are entirely warranted.

Dr. Funkhouser had examined the specimens upon removal, and had found both ovaries cystic, and the tubes occluded. It was suggested, at the time, that there might be an ectopic pregnancy in connection with one of the ovaries, but this proved to be merely the remnants of a ruptured cyst.

ABSTRACTS

MEDICINE.

Muscular Rheumatism.—According to Leube (*Deutsche Med. Woch.*) muscular rheumatism is not a local disease, but a general infective disorder with special localizations in the muscular system. The mode of onset of the disorder varies, but is sometimes marked by shivering and prodromal fever, and by malaise of some duration. In some cases the muscular pains may be widespread, and occasionally endocarditis is observed. Taking a series of about 200 cases, he found that fever was present in about one-third; it was seldom higher than 102° F., and generally fell after two days in hospital either rapidly or after some irregular fluctuations. In one-sixth of the cases there was a cardiac murmur at the time of admission; it is generally supposed that endocarditis, which is so common a "complication" of joint rheumatism, scarcely ever occurs in relation with muscular rheumatism. It is not possible to say in how many of the cases in which a murmur was observed this was present before the onset of the muscular rheumatism, but it was noticed that in half the cases the murmur grew fainter or disappeared while the patient was under treatment, and that whereas in all the cases together fever was observed in one third only, it was present in two-thirds of those in which there was a murmur. Moreover, in a few cases the murmur was observed to appear after the onset of the muscular rheumatism. Three such cases are related by Leube, but in one there was at a later stage muscular rheumatism and in another the patient, at the time the muscular rheumatism came on, was under treatment for gonorrheal urethritis, vaginitis, and cervical endometritis. Leube states that he has seen joint rheumatism come on after muscular rheumatism in several cases, and points out that muscular rheumatism is frequently observed after affection of the joints. Pleurisy was in a few rare cases observed as a complication of muscular rheumatism, but albuminuria only once. Leube concludes that it is highly probable that the infective material in muscular rheumatism is an attenuated form of the virus of acute rheumatic arthitis. In Wurzburg, where his observations were made, the cases of muscular rheumatism coming to the clinic were, as a rule, few in number and isolated, but at one time recently a large number of cases applied, so that half a ward was filled with them; this would appear to indicate an epidemic influence. He only mentions the question of treatment incidentally, but would seem to have relied on salicylate of sodium.—*Brit. Med. Journ.*

The Bacteria of Peritonitis.—The interesting subject of the bacteria associated with peritonitis has received a new and important contribution in a monograph by Drs. Tavel and Lanz. The authors have given in this report the result of their study of seventy odd cases of inflammation within and about the peritoneum or neighboring organs. But only a part of this number fall within the usual acceptation of the term peritonitis. The material for this study with the exception of a very few cases, has been obtained at operations in the clinic of Professor Kocher, and has therefore, the great merit of having been secured intra-vitam, thus excluding the possibility of a post-mortem migration of intestinal bacteria into the peritoneum, a possibility which has been brought forward as an objection of the results of E. Frankel and Predohl in their work on peritonitis. The cases have been of the most varied character and diverse etiology; but if considered analytically they may be fairly divided into several groups. In considering the bacteria met with in their examinations we shall only mention those which are recognized as having pathogenic significance, and shall neglect the less important forms, of which as many as a half-dozen or more species have been observed occurring together in some cases. Perhaps the most important class of cases are those in which there is inflammation in or about the vermiform appendix. Of these, nineteen cases were studied. The result may be given as follows: Of seven cases of purulent formation within the appendix, the bacillus coli communis was found in six, the streptococcus in two, and the pneumococcus in one case. None of the cases were sterile. In fifteen cases of peri-appendicitis, the examination of the exudate or abscess showed the presence of the bacillus coli communis in eight; the streptococcus in five; the staphylococcus citreus in one; the pneumococcus in one, and actinomyces in three cases. Two cases were sterile. The number of species found varied in the different cases from one to nine in number. It is interesting to note that the examination in seven cases of the interior of the appendix, where the contents were to be considered as normal or not affected with the inflammatory process in the neighborhood, showed no bacteria in two cases. This result is surprising in view of the enormous number of bacteria always present in the large intestine. Of these cases of peritonitis diffusa, secondary to appendicitis or peri-appendicitis, the bacillus coli communis was found in two, the bacillus pyocyaneus in one, and one case was sterile. In this group

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of peritonitis diffusa are also three cases which had their origin in the gall bladder, one being secondary to a choledochotomy. In two of the cases the bacillus coli communis was found, and in the third the staphylococus albus. In this connection it may be mentioned that of three cases of gall-stones the bile contained staphylo coccus albus in one case, bacillus coli communis in one case, and the remaining case was sterile. Of six cases of peritonitis from various causes, in two bacillus coli com munis, in two streptococcus, in one bacillus pyocyaneus were observed. In a single case no bacteria were present. Four cases of intestinal obstruction formed another group of cases, in three of which there was a fibrinous exudation in the peritoneum. Of the four cases but one yielded an organism of any significance, namely, the staphylococcus albus. Two were apparently sterile. The last group of cases are those in which the fluid of hernial sacs was examined for bacteria. Of seventeen cases all were sterile except two, and these positive cases were from four of beginning or advanced gangrenes of the gut. The absence of bacteria in the other two cases of gangrene, where the condition for their migration through the wall of the gut were apparently favorable, is surprising. On the other hand, in the sac fluid of two out of three epiploic herinæ, where bacteria from the intestine where scarcely to be expected, bacteria could be demonstrated. In two hernial hydroceles the fluid was sterile. The results are of interest as showing that we are as yet ignorant of all the causes which determine the migration of bacteria through the intestinal wall. It is also interesting to note that the examination of the contents of a hernial loop of the small intestine, accidentally opened at operation, showed few bacteria This is another proof of the relatively small number of organisms in the small intestine as compared with those in the larger gut.

In addition to the foregoing cases the authors have included in their list of examinations a number of other cases more or less germane to the subject of peritonitis, but which have no special interest. Among these, however should be mentioned a case of sub-peritoneal ab scess and a case designated as empyema of a hernial sac in both of which tuberculosis originating in the vertebræ has not been sufficiently excluded. The latter case especially serves to emphasize how desirable it is, for the bacteriologist who works with pathological processes, to have some knowledge of pathology. The technique employed in the work is, on the whole, satisfactory. The study of the biology of the different bacteria is perhaps, in general, as thorough as is necessary. A feature of their investigation which is of special interest from a bacteriological point of view is the study of thirty respresentatives of the bacillus coli communis, with reference to their various cultural peculiarities, number of locomotor organs, and other characteristics. The results would seem to show that scarcely any two of them are exactly alike. The differences, however, in many cases, are only such as one would encounter in studying parallel cultures of almost any organism, and we do not think that the writers are justified in considering many of such differences as constant. It is well known that different varieties of the bacterium coli exist, but the division of these thirty representatives of that group into as many as twenty varieties does not seem warranted from the observations. Of the thirty, two at least are clearly not to be classed within this group of the bacterium coli, as would appear from a consideration of their cultural peculiarities as given by the writers. In several cases bacilli somewhat resembling the Klebs-Loffler organism have been observed. To these, however, no pathogenic significance is as cribed. We cannot agree with the writers that this is probably the pseudo diphtheria bacillus of Loffler. The cultural peculiarities of that organism are too little known for it to be identified, and our own experience has seemed to show that there may be nearly as many pseudo diphtheria bacilli as there are observers. In addition to the result of their own expirimental work, the speculative and historical aspects of various questions connected with the subject of peritonitis have been well considered by these investigators. As to prognosis, they state that no conclusion can be drawn from the species of bacteria present. In those cases, however, where no bacteria are to be demonstrated, it would seem that the result is, in general, more favorable than in those where bacterial forms are present.—Boston *Med. and Surg. Journ.*

On the Disinfecting Power of Solor Rays.—Certain articles, as furs, leather, etc, cannot be disinfected by steam, since they are thereby rendered useless. Others, which are certainly amenable to such treatment, as fixed upholstered articles of furniture, cannot be removed for the purpose. To disinfect these we have recourse to gaseous agents, and they, according to the results of experiment, are not always reliable An exception, possibly, lies in formalin, which has recently been recommended by Lehmann (*Munchener Med. Wochenschrift*, 1893, No. 22). Another means of disinfecting such articles consists in the use of solutions of carbonic acid or corrosive sublimate. In the case of wooden and metallic articles, with smooth hard surfaces we can rely on the result, if they are first thoroughly sprayed with the liquids and subsequently washed; but such is not the case with thick woollen materials. Duclaux (*Rev. Scientifique*, 1881) found that some bacteria are destroyed by sunlight, and he refers to this as an important agent in the sterilization of the atmosphere. Arloing (*Compt. Rend*, 1885) proved that anthrax bacilli are destroyed by the solar rays. Koch has also shown that tubercle bacilli cannot be exposed to the same for very long and survive. Fermi and Celli (*Centralblatt f. Bacteriologie*), in a series of experiment, demonstrated that germs in aqueous suspension are likewise killed, and Raspe ("Dissertation Schwerin,") asserts that the sun is able to hinder the development and even destroy bacilli lying on the surface of the soil

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or submerged in water. But no experiments have been hitherto made to determine how far these rays may be used as disinfectants of clothes, bed linen, and furniture.

It is a common custom to place the clothes, bed linen and mattresses in the air and sun, especially after death, possibly in the hope that currents of air may diffuse evil odors more quickly. Nevertheless, it seemed of importance to the author to investigate how far such results were trustworthy, and how far they were attributable to the direct effects of the solar rays.

Esmarch used pillows, varying the contents, skins, etc, and bacteria, as pure cultures, or pus containing micrococc. He imitated the natural conditions as far as possible. The materials were contaminated with the solutions and placed in the sun, either at once or after drying. Control experiments were also made. He arranged linen, woll cloth, etc, in layers, and in the first series of experiments to prevent the falling of atmospheric microbes during the exposure, he placed the pieces in a box covered with a glass pane, and provided at the sides with openings for ventilation. The temperature of the interior, however, rose much higher than that of the air (30°) and vitiated the results. In subsequent experiments the objects were always placed on the grass in the sun. Esmarch concludes that the sun's rays have a marked action on the surface, but that this speedily becomes lost when becteria are protected by layers of meterial. The cholera bacillus, even in the deepest layers, were killed; but this is not surprising since desiccation lasting but a short time is fatal to it. An exposure, lasting eight to ten hours yielded but unsatisfactory results. After one day the diphtheria bacillus was killed in the interior of the pillows, but when protected by the woolly hair of a sheep's skin, 39 hours were insufficient. Streptococci within the pillows and the skins withstood a five days' exposure. Esmarch then sprayed infected articles thoroughly with 2 per cent and 5 per cent solutions of carbolic, and found that the weaker acid is little better then the sun, and that the 5 per cent is not altogether reliable. (Ueber sonner desinfection E Von Esmarch. *Zeitschrift f. Hygiene*)—*Public Health.*

NOTES AND ITEMS

Milk Adulteration.—Who adulterates our milk? is naturally a question of public interest. Mr. A. W. Stokes, Public Analyst to the Vestry of the Parish of Paddington, forwards me his report for the quarter ending December 25, last, and directs my attention to certain important facts which his analytical inquiries have elicited. Out of 191 samples of milk examined, forty were found to be adulterated. Inquiring into the sources of the adulteration, Mr. Stokes says that seventy-nine samples were taken from the railway stations as the milk came direct from the country. Now, of these seventy nine samples, thirteen (or an average of sixteen per cent) proved to be adulterated. From shops, on week days, thirty three samples were taken, and seven were adulterated, that is twenty one per cent. On Sundays, ten shop samples were bought. Of these four (or forty per cent) were below the mark. From itinerant milk dealers in the street, fifteen weekday samples were procured. Of these one sample (or six and a half per cent) had been tampered with. On Sundays, the street vendors supplied fifty-four samples, whereof fifteen (or twenty seven per cent) were found to be watered or skimmed. Mr. Stokes concludes that on ordinary days one out of six milks purchased may be found under par, while on Sundays one out of every three milks has, in all probability, been watered or otherwise reduced. He goes on to add that Sunday is, with the poor, a milk pudding day, and that the fraud, therefore, tells hardly upon the masses—very trite remark, in my opinion. In addition to these actually adulterated milks, there was a certain number which "only just passed as genuine," these having been probably slightly watered or skimmed, a process bringing them down to the level of very poor milk. The rural adulteration strikes me as a very bad feature of the milk traffic. "The cow with the iron tail" seems to be in use in the farmyard. Some sixteen per cent of the samples came adulterated from the country direct. Mr Stokes remarks, very feelingly, that "it is astonishing the quantity of water that comes to London not brought thither by the water companies"—*Health.*

Medical Cycles.—One is apt to forget that many years ago different parts of living animals were used as medicines. To go back only to Nicholas Culpepper's edition of the "Pharmacopeia Londinensis; or, the "London Dispensatory," published in 1859, we find among other curious "notions," that "the brains of sparrows being eaten provoke love exceedingly." This is in accord with a general opinion concerning these birds. Further, "the brain of a hare being roasted, helps trembling; it makes children breed teeth easily, their gums being rubbed with it; it also helps scald heads, and falling off of hair, the head being anointed with it." In those days it was not pleasent for some of our domestic pets, for we read that "the head of a coal-black cat being burnt to ashes in a new pot, and some of the ashes blown into the eye every day, help such as have a skin growing over their sight; if there be any inflammation, moisten an oak leaf in water and lay over the eye; Mizaldus saith (by this one only medicine) he cured such as have been blind a whole year." There is also hope for the gouty, "for the head of young kite being burnt to ashes, and the quantity of a drachm of it taken every morning in a little water, is an admirabe remedy against the gout." But this is a case of first catch your kite—and mind it must

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be young! Also, "Crabeyes breaks the stone, and opens stopping of the bowels."

Some of the following are almost up to date:

"The lungs of a fox well dryed (but not burned)is an admirable strengthener to the lungs."

"The liver of a duck stops fluxes and strengthens the liver exceedingly."

"The liver of a frog being dried and eaten, helps quartan agues, or, as the vulgar call them, third-day agues."

"A sheep's or goat's bladder being burnt and the ashes given inwardly, helps the Diabetes." Powdered dried mouse does the same, and is also good for incontinence of urine.

Culpepper does not refer to mummy, so probably it had gone out of fashion when he wrote or the "corner" in artificial old Pharaohs and others Nilotic worthies had been broken up by the Pasha we have just read of, and speculative Hebrews compelled to cast about for some other article in demand just then. He does refer, however, to human bones. "The skull of a man that was never buried, being beaten to powder and given inwardly, the quantity of a dram at a time in Betony Water, helps palsies and falling sickness." Another statement he makes runs as follows: "That small triangular bone in the skull of a man called ostriquetrum, so absolutely cures the falling sickness that it will never come again, saith Paracelsus." Methinks Paracelsus still lives.--*The Medical Magazine.*

Best Method of Slaughter.—At a recent meeting of the Berlin Physiological Society, Dr. Dembon, of St. Petersburg, read a paper "On the Best Method of Slaughtering Animals," which gave rise to an animated discussion. Two methods, it seems from an account given, are in use in the central slaughter houses of the Berlin "Vienhof." One consists in stunning the animal by blows on the head before killing it; the other, in sudden severing of the carotids without any pervious stunning. This, as is well known, is the old Jewish ritual method of slaughtering. Dr. Dembon has carried out a series of experiments on animals in Professor Munk's physiological laboratory in Berlin, and his results go to prove the superiority of the Jewish method. To stun completely a powerful animal, such as an ox, as many as eight or nine blows are sometimes required; whereas the loss of blood from the brain that follows the severing of the carotids produces unconsciousness almost simultaneously. Again, where the animal is stunned by blows on the head, there is paralysis of the vasomotor center, and in consequence an enlargement of the blood vessels. This prevents the blood from escaping quickly and completely. Now, it is a fact well known to butchers that raw meat will not keep fresh unless the blood be permitted to escape as freely as possible; and many of them for this reason habitually employ the Jewish method of slaughter, which, by the strong reflex convulsions that follow the sudden opening of the large vessels of the throat, favors a speedy and complete escape of the blood. These reflex convulsion also cause the production of lactic acid in the muscles, which probably acts antiseptically.—*Health.*

Mr. Saunders is pleased to announce, as in active preparation, his new aid series of manuals for students and practitioners. As publisher of the "Standard Series of Question Compends," together with an intimate relation with leading members of the medical profession, Mr. Saunders has been enabled to study, progressively, the essential desideratum in practical "self-helps" for students and physicians.

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Each Manual, comprising about 250 pages (5½ x 8 inches), will further be distinguished by the beauty of the new type; by the quality of the paper and printing; by the copious use of illustrations; by the attractive binding in cloth; and by the extremely low price, which will uniformly be $1.25 per volume.

Hyperidrosis of the Feet.—Kaposi (*L'Union Medicale*) recommends:

1. To wash the feet morning and evening with a mixture of

Naphthol,	grains,	5.
Glycerin,	"	10.
Alcohol,	"	110.

2. To dust on every morning the following powder:

Pulv. talci,	parts,	40.
Bism. subnitr.,	"	45.
Potassii permangan.,	"	3.
Sodii salicylatis,	"	2.

Motion of Human Spermatozoa.—Various authorities state that the spermatozoa may continue to move during twenty-four to eighty-four hours after death in the fluids of the seminal tract. Outside the body the movement of spermatozoa has been observed for seventy-two hours by Hofmann and Mantegazza for four days at a suitable temperature. Mr. Piersoll now states that at a temperature of 8.5° C. a few of the elements showed movement, after being kept for nine

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days. These facts show that spermatozoa may long retain their vitality in the female generative tract and must receive in future due consideration in connection with certain medico-legal questions.—*Med. Rec.*

The Fifty-Fourth Annual Commencement of the University of the State of Missouri will take place June 3 to 7, 1894.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

Torsion of the Uterus in a Mare.—Death.

I was called to see a mare a short time since, reported to be pregnant and eleven months gone. History given, that she had been showing colicky pains at different times for about three days, though never fail ing to eat, and appeared to be in perfect health when these pains would strike her, which were about as follows:

First day, she was being worked (as was the custem previous to that) and was unusually slow and soon attempted to lie down; the harness was removed, mare turned into a grass field, laid down, rolled a few times, got up and began to graze and all seemed to be right for about three hours when signs of uneasiness were again noticed; soon she laid down on her right side, looked around toward her flank and groaned a few times. This lasted for about five minutes, when she got up, bega neating as before, thus passing the day with intervals of uneasiness as stated above.

Second day, could see no change, except about every two hours she was taken down similarly to day before.

Third day, the only change noticed was that the interval of quietude was still growing shorter and symptoms a little more urging. When I saw her at 9 o'clooh P.M., of the same day, she was in a large roomy stable eating hay at the rack and at first sight did not seem to be anything wrong. Examination showed temperature 101°, pulse 50 and strong, mammary glands hard and tense, general appearance very good.

At this time she was again taken down. She showed no labor pains, but acted very much as if suffering from colic. Knowing that to be one of the sequels of pregnancy gave precription of opiates, directions to give as symptoms required and to be fed on mashy food. Told the owner to observe closely, as she might possibly have trouble at time of parturition.

Three days later I was again sent for, the owner stating that no labor pains had been noticed, but that she was still growing worse—quit eating. Examination revealed serious trouble. Temperature 103°, pulse 90 and very weak; hurried respiration, flanks tucked up, and in attempting to lie down did so with all the care possible. Mammæ soft and flabby; made a vaginal examination, hand passing very readily; found the os uteri closed; by a little manipulation was able to dilate it sufficiently to allow the passage of my hand; at this time uterine contractions were noticed for the first time though they were not very forcible; passing along still further my hand was stopped very abruptly, and in a few moments made a diagnosis of right torsion of the neck of the uterus. I gave an unfavorable prognosis; the animal was destroyed; my diagnosis confirmed by autopsy, which revealed a complete turn of the uterus on its axis, with extensive lesions of metro-peritonitis. The colt had evidently been dead for some time, as the hair would come off readily; fetus presented anteriorly, both forelegs flexed at knee joints, head and neck bent back and lay under the body of colt.—John A. Myer, D.V.S., in *Am. Vet. Rev.*

Milk from Tuberculous Cows.

Another most important point insisted on by Principal McCall was the gross absurdity of condemning to destruction the flesh of tuberculous animals, while allowing the sale of milk from tuberculosis to be carried on without let or hindrance. Any intelligent man can easily see a much more serious danger to the public health is involved in using the milk from tuberculous cows than there is in using the flesh of tuberculous animals, because the flesh is generally eaten only in the cooked state, and the cooking destroys the bacillus, whereas the milk is almost always used in the raw state, so that the disease germs in the milk enter the system of the eater with all their vitality unimpaired. In the case of strong healthy persons living under the best sanitary conditions, the milk of tuberculous stock may be drunk with impunity, because in that case the system is able to withstand the attack of the disease germs. But children, and particularly delicate children, living under the very unsanitary conditions that prevail in the large cities, are particularly liable to be struck down with tuberculosis as the result of drinking milk which is tainted with the germs of this vile disease. In fact, there can be no doubt whatever that a wholesale system of poisoning children in the large cities is carried on through the sale of milk from tuberculous cows. In our issue of March 7, we wrote on the subject as follows:

"Every medical man can testify that tubercular meningitis is one of the most frequent causes of infant mortality, and no one can tell in how great a degree the

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prevalence of that disease among infants is due to the use of milk from tuberculous cows. Or again, the germs of the disease, conveyed into the system by that milk, may affect the intestinal system, and the child dies of dysentery or diarrhea, and no one needs to be told that these are are great source of mortality among infants."

Following on the same lines, Principal McCall said in his Dumbarton lecture recently:

No doubt boiling destroys the bacilli in the milk, as in the flesh, but we know as a fact that the vendor does not boil it, and therefore I have no hesitation in saying that tubercular cows' milk is largely responsible for the prevalence of diarrhea, bowel consumption, and other fatal diseases in children. If the chemist or apothecary sells a poison without inquiry and label, the law takes hold of him, and rightly so; but milk producer and vendor are allowed to sell their equally deadly "consumptive poison," and the law takes no cognizance thereof. Will no one come to the rescue and put an end to this heinous sin?

As to the extent to which this "heinous sin," of which the Principal speaks in terms of unqualified condemnation is carried on, we quote from the *Sanitary Journal* the following extract from a paper on "Diseases Transmissible from the Lower Animals to Man," which was read by Mr. J. McLauchlan Young, M.R.C.V.S., Dundee, before the Annual Congress of the Sanitary Association of Scotland, held at Aberdeen in 1892:

With reference to cases of intestinal tuberculosis, Bolitz gives the following statistics: Out of 2,576 children, whose bodies were submitted to post mortem examination at Kiel during the years 1873 to 1889, there were 424 cases of tuberculosis, or 16.4 per cent of the whole mortality. The percentages of the whole deaths from tuberculosis at each of the different stages were:

Stillborn,	- - - -	0.0 per cent.
Up to	4 weeks, -	0 0 "
"	5 to 10 " -	0.9 "
"	3 to 5 months, -	8.6 "
"	6 to 12 " -	18.3 "
"	1 to 2 years, -	26 8 "
"	2 to 3 " -	38.0 "
"	3 to 4 " -	29.6 "
"	4 to 5 " -	31.8 "
"	5 to 10 " -	34.3 "
"	10 to 15 " -	31.1 "

A glance at these figures shows that, as long as the child's diet consisted solely of its mother's milk, no tuberculosis was found; but as cow's milk was substituted, the percentage rose. Thus we find the highest at the age of from 5 to 10 years, a period when children drink a large quantity of milk.

These are facts, the dread significance of which can neither be gainsaid nor explained away. Surely, therefore, it is high time that the law should step in and not only stop the sale of this "consumptive poison," but also schedule tuberculosis as a contagious disease which shall be stamped out as ruthlessly as pleuro has been.—*North British Agriculturist.*

A Practical Farmer on Tuberculous Meat.

At a dinner at Laurencekirk in connection with the McJannet test at the Kincardineshire Farmers' Auction Co., the chairman, Mr. William Falconer, Cairnton, said they had surely at last seen what the Yankees called "beef at its bottom." Prices had surely fallen now as far as they possibly could. There were other things, however, besides low prices for beef that dealers had to complain of. He would just in a word refer to one, namely, the question of compensation for animals bought in good faith by butchers as healthy animals, but which might be afterwards found to be suffering from tuberculosis, and were condemned to be destroyed. While he sympathised with the gentlemen connected with the trade, on whom loss might most innocently be entailed, he sympathised as well with the general public. It was for the good of the public that a strict inspection should be exercised against the flesh or milk of any animal being sold if that animal was suffering from any disease likely to prove hurtful to any single human being. His desire was that the public should get cheap food, and also food clear of everything detrimental to their health. He was in favor of all cattle suffering from disease being condemned and destroyed. On the other hand, he held as strongly that respectable dealers purchasing in good faith an apparently healthy animal which was subsequently found to be suffering from tuberculosis, and which for the protection of the public was very properly destroyed, should be compensated either from the Imperial Exchequer or the county rates.—*North British Agriculturist.*

Pure Crystal Water.

Our attention has been called to Crystal Water from the many commendations appearing in the exquisite pamphlet of the Crystal Water Co., in which we note the commendations of many of our most prominent city physicians and surgeons, of which we here give paragraphs of what some of the most prominent ones state:

I performed the Cesarean operation and used the Crystal Water exclusively upon the wound and intestines. The patient has had no signs of infection and is doing exceedingly well.—Prof. A. C. Bernays.

I believe it to be the best and purest water ever presented to the citizens of St. Louis for drinking and cooking purposes, and deem it equally as valuable to the physician and surgeon in his needs in the sick room and operations.—S. B. Parsons, M.D.

The best known filters may remove bacteria, but do not remove the soluble substances which have been formed by these organisms from the organic matter in the water. These substances are sources of greater danger in drinking water than the bacteria which produce them. The process under consideration eliminate both. It will also fill all requirements for use in surgery and for compounding prescriptions.—Albert Merrell, M.D.

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This Company's Medicated Crystal Waters, because of their definite strength and the purity of water used in their manufacture will recommend them to the medical profession.—Prof. Spencer Graves.

As a result of my investigation I have adopted it as a table water, also in hospital and private practice, employing it in surgical operations and dressings.—Professor L. H. Laidley.

I have thoroughly tested and found free from micro-organisms and organic matter of every description. I consider it superior to filtered or distilled water for surgical dressings. —Heine Marks, M.D., Chief Surgeon City Hospital.

I use it in my practice and regard it a valuable adjunct. My experience with Crystal Water in cases of laparotomy has been most satisfactory from the reason that it is absolutely pure.—John H. McIntyre, M.D.

I believe myself familiar with your mode of distillation and aeration, and it having withstood several severe chemical tests successfully, am compelled to pronounce it pure and deserving of great praise.—Robt. J. Hill, M.D.

As the era of antisepticism passes off the world's stage, we are more and more imbued with the principle, that "Cleanliness is next to Godliness." The doctrine of cleanness is the essence of advanced surgical therapeutics, and you have added your mite to the furtherance of this progression. Crystal Water cannot be cleaner.—Jos. L. Bauer, M.D.

I have used the Crystal Water in surgical cases with the most satisfactory results.—W. A. McCandless, M.D.

There can be no question of the value of Crystal Water from the sanitary point of view. For medical and surgical purposes it is all that could be desired.—A. C. Robinson, M.D.

To the medical profession it is of inestimable value, and not less so as an assistant in surgical practice. I heartily indorse it and recommend its use.—Otto E. Forster, M.D.

I have used Crystal Water for household and medical purposes and esteem it an absolutely pure water, and can heartily recommend it.—M. P. Morrell, M.D.

I could not, after having used the pure Crystal water, and Lithia carbonated and still, get along without them in my practice.—Prof. Wm. F. Kier.

I find it perfectly pure, and representing only the chemical equivalents (H.O.) of water.—Prof. T. Griswold Comstock.

Your system, as far as I can judge, is thorough and complete. The sterilization of bottles before and after use is worthy of special commendation. I do not see how it could be improved.—C. M. Riley, M.D.

I consider the water prepared by the Crystal Water Co., the best and purest water that I know of.—Professor Y. H. Bond.

I was thoroughly convinced of its purity. I tried no less than half a dozen tests, "Nessler's reagent," etc., but failed to get any deposit. I was satisfied. I use it now in all cerebral and abdominal surgical cases. I never had better results in surgery than since I have been irrigating the field of operation with Crystal Water.—W. H. Mayfield, Surgeon-in-Chief of Missouri Baptist Sanitarium.

You may say for me that Crystal Water is a clean water, and the manner in which it is furnished for surgical purposes will make it a "sine qua non" for surgeons who may be compelled to do operations in private houses, where it is often impossible to secure water free from contamination.—Prof. F. J. Lutz, Chief Surgeon of the St. Louis and San Fracisco Railway Company.

The determination of dissolved oxygen in the aerated Crystal Water shows that the aeration is complete. Two determinations gave 100 per cent of the normal, at the temperature at which they were made. This is about 8.5 parts per million at 68° F. The normal amount varies so much with the temperature and pressure, that the better way is to express results in percentage of normal amount. The non-aerated water shows less than 50 per cent of the normal, but an accurate determination would have to be made at the works.—Prof. Chas. Thurston Whittier, of the Chemical Laboratory, St. Louis Medical College, Washington University.

It is useless for us to add anything to the foregoing, as Lithia Water, both still and sparkling, is recommended by physicians everywhere in cases of kidney troubles, tendency to gravel, and incipient diabetes. This valuable remedy as produced by the Crystal Water Company is superior to all others, because it is made from absolutely pure water, and the purest Lithium Carbonate obtainable in the world.

All spring Lithia Water, says the eminent chemist, Dr. Walter (*Jour. Am. Ch. Soc.*, vol. xii, No. 6), always contain uncertain quantities of Lithia, and frequently none at all, while they all contain a larger percentage of solids which are useless, and some of them positively injurious. Crystal Lithia contains uniformly ten grains pure Lithia to U. S. Gal. enabling the physician to prescribe its use in exact accord with his diagnosis.

The following published analysis shows the relative strength of Lithia waters:

Name.	Solids per U. S. Gal. Grains.	Bi Carb. Lithia. Grains.	Solids excl. Lithia. Grains.
Londonderry,	89.876	8.62	81.256
Farmville,	26.39	3 76	22.63
Buffalo,	98.38	3.25	96.13
Wolf Trap,	20.67	0.033	20.637
Belmont,	15.44	0.006	15.434
Gettysburg,	56.55	Trace	55.55
Crystal,	10.1	10	0.1

Every grain of these solids, many of them extreme irritants have to pass out of the system through the kidneys, increasing the inflammation which the Lithia is intended to allay. By using pure Crystal Lithia, the system gets nothing but that which is beneficial with the resultant and speedy relief. So it can be now published broadcast, notwithstanding the much that has been said about the muddy water in St. Louis, that we have now the purest water in the world.

The Crystal Water Company also produces the finest Carbonic, Vichy, Selzer, Deep Rock and Appolinaris Waters, Club Soda.

We recommend our readers to request on REVIEW coupons from the Crystal Water Company, their pamphlet which will give full information regarding Crystal Water, and if you will in your application mention the MEDICAL REVIEW, they will send you sample bottle, free.

EACH WINTER is followed by a new crop of lung and bronchial patients, who can not survive the depressing hot season for want of power to digest cod liver oil in hot weather. Codliver Glycerine mixes with water and all medicines and requires no digestion, but is in itself a digestive stimulant. It is the indicated remedy. Try it.

Diuretic Action of Cascara Sagrada.

Dr. Milnes Hey (Hornsey Lane, N.), writes to the *British Medical Journal:* "Some little time ago I noticed after taking some cascara sagrada increased frequency of micturition. I could then find no cause for this. Shortly after I again toook this drug, and again noticed the same effect. As I could find no reference to its action as a diuretic, I began to watch its actions on any of my patients who might be taking it, and in the majority of cases I found it to act as a diuretic, a few only not noticing any difference. In one case, a Mr. D. H., the effect was marked, as the patient himself complained of the number of times during the day he was obliged to urinate. I analyzed his urine, and found it

to be quite healthy. On stopping the cascara he ceased to be troubled. One of my medical brethren told me that he also had noticed this same effect of this drug upon himself. The cascara sagrada that I use, and have always used, is the liquid extract of Parke, Davis & Co. I should be interested to hear if this diuretic action has been observed by others.'

DENVER, COLO., April 11, 1894.

DIOS CHEMICAL CO., St. Louis.—I have been using "Seunine" for the last month in all of my surgical cases and have had such excellent results with it that I feel like adding my word of approval to those which you have already received.

I have used it in a large variety of cases, some of them have been of such a nature as to have put it to a very severe test, and in all of them it has given the very best of results. I have given almost all of the new antiseptics a trial but have never found any of them to be as serviceable as "Sennine." I have also found it a very valuable remedy in gonorrhea. C. B. LYMAN, M.D., Ass't Surg., U. P. System

FORMULÆ

Small-Pox.

℞ Salicylate of soda,
Antipyrine, - - - - - - - aa ʒij.
Aq. menth. pip., - - - - - - - fʒiv.
Glycerin, - - - - - - - - fʒj.
M.
Sig. Tablespoonful three times a day.

℞ Sennine, - - - - - - - - - ʒj.
Aq. menth. pip., - - - - - - - fʒiij.
Tinct. eucalypti, - - - - - - - fʒss.
Glycerin, - - - - - - - - fʒj.
M.
Sig. Use as mouth wash and wet compresses to be applied to the eruption.

Psoriasis.

℞ Ol. cadini,
Ungt. hydrarg. alb., - - - - - - aa ʒss.
Lanolin, - - - - - - - - ʒj.
M. f. ungt.
Sig. Apply locally.

Hyperidrosis.

℞ Acid tannic,
Sennine, - - - - - - - - aa ʒj.
Alcohol, - - - - - - - - fʒvj.
M.
Sig. Use as a lotion.

Septicemia.

℞ Peroxide of Hydrogen (Marchand's) - - fʒj.
Aq. destill., - - - - - - - fʒiij.
Glycerin, - - - - - - - - fʒj.
M.
Sig. Tablespoonful three times a day.

Posterior Spinal Sclerosis.

℞ Potass. iodid., - - - - - - - - ʒj.
Exta. belladonnæ, - - - - - - gr.j.
Syr. cort. aurant., - - - - - - - ʒj.
Aq. destill., - - - - - - - - ʒiij.
M.
Sig. Tablespoonful three times a day.

Asthma.

℞ Ammon. iodid., - - - - - - - - ʒij.
Fl. extr. grindel. rob., - - - - - - fʒss.
Tinct. lobeliæ,
Tinct. belladonnæ, - - - - - - aa ʒj.
Syr. pruni virgin., - - - - - - - fʒij.
Aq. destill., - - - - - - - - fʒij.
M.
Stg. Teaspoonful three times a day.

Erysipelas.

℞ Sennine, - - - - - - - - - ʒij.
Vaseline,
Lanoline, - - - - - - - - aa ʒss.
M. f. ungt.
Sig. Apply to part and cover with lint.

Bunions.

℞ Iodoform, - - - - - - - - ʒj.
Collodii, - - - - - - - - fʒj.
M.
Sig. Paint twice daily.

℞ Tinct. iodinii,
Tinct. belladonnæ,
Glycerin, - - - - - - - - aa fʒj.
M.
Sig. Apply twice daily.

Angina Pectoris.

℞ Amyl nitrite,
Ether, - - - - - - - - aa ʒj.
M.
Sig. Five drops on handkerchief and inhale.

Dysmenorrhea.

℞ Diviobumia,
Neurosine, - - - - - - - aa fʒij.
M.
Sig. Teaspoonful every two to three hours, well diluted.

Dyspepsia.

℞ Bismuth. subnitrat., - - - - - - - ʒj.
Pepsin,
Sacch. lactis, - - - - - - - aa ʒss.
M. f. pulv. Divide in dos. No. 12.
Sig. A powder before each meal.

Carbuncle.

℞ Sennine, - - - - - - - - - ʒij.
Lanoline, - - - - - - - - ʒj.
M. f. ungt.
Sig. Apply after making crucial incisions into carbuncle.

Pleurisy.

℞ Tinct. iodi, - - - - - - - - fʒvj.
Guaiacol, - - - - - - - - fʒij.
M.
Sig. Apply on the affected side of chest.

℞ Pulv. fol. digital., - - - - - - - gr.x.
Chinin. sulphuric., - - - - - - ʒss.
Sacch. alb., - - - - - - - - ʒj.
M. f. pulv. Divide in dos. No. 10.
Sig. One powder three times a day.

Nephritis.

℞ Wayne's Diuretic Elixir, - - - one bottle.
Sig. As directed.

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DIOVIBURNIA

UTERINE TONIC, ANTISPASMODIC AND ANODYNE.

A reliable and trustworthy remedy for the relief of Dysmenorrhœa, Amenorrhœa, Menorrhagia, Leucorrhœa, Subinvolution, Threatened Abortion, Vomiting in Pregnancy and Chlorosis; directing its action to the uterine system as a general tonic and antispasmodic it is unexcelled.

FORMULA.—Every ounce represents 3-4 dram each of the fluid extracts: Viburnum Prunifolium, Viburnum Opulus, Dioscorea Villosa, Aletris Farinosa, Helonias Dioica, Mitchella Repens, Caulophyllum Thalictroides, Scutellaria Lateriflora.

ST. LOUIS, MO., June 23, 1888.

I have used DIOVIBURNIA enough to satisfy myself of its merits. It is of unquestionable benefit in painful dysmenorrhœa; it possesses antispasmodic properties which seem to be exerted especially on the uterus.

W. H. Taholske

Professor of Surgery, Post-Graduate School.

ST. LOUIS, MO., June 18, 1888.

I have given DIOVIBURNIA a fair trial, and found it useful as an uterine tonic and antispasmodic, relieving the pains of dysmenorrhœa and a regulator of the entire uterine functions. I feel authorized to give this recommendation.

L. Ch. Boisliniere

Professor of Obstetrics, St. Louis Medical College.

ST. LOUIS, MO., June 18, 1888.

For more than a year I have prescribed DIOVIBURNIA. In those cases that I have been able to follow up, I found that they derived much benefit from its use in almost every form of dysmenorrhœa—especially the congestive form. I am so pleased with it that I now prescribe it almost daily.

J. L. Byrne M. D.

Physician in Chief and Gynecologist to St. John's Hospital.

ST. LOUIS, MO., June 20, 1888.

I very cheerfully give my testimony to the virtues of a combination of vegetable remedies prepared by a well-known and able pharmacist of this city and known as DIOVIBURNIA. I have employed this medicine in cases of dysmenorrhœa, suppression of the catamenia, and in excessive leucorrhœa, and have been much pleased with it. I do not think its claims (as set forth in the circular accompanying it) to be at all excessive.

Chas. B. Stockton

Professor of Principles and Practice of Medicine, St. Louis Medical College.

DOSE.—For adults, a desertspoonful three times a day, after meals. In urgent cases, where there is much pain, dose may be given every hour or two, *always in hot water*. Put up in Eight Ounce Bottles.

To any physician, unacquainted with the medicinal effects of NEUROSINE, DIOVIBURNIA and SENNINE, we will mail pamphlets containing full information, suggestions, commendations of some of the most prominent professors in the profession, and various methods of treatment; or to physicians desiring to try our three Products, who will pay express charges, we will send on application, FREE SAMPLES.

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MEDICAL REVIEW.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

VIII.—Their Use and Value in General Medicine.

What have the principles of general antisepsis done for general medicine? Have not their far-reaching influences been felt even here? To-day the modern science of bacteriology is about to revolutionize modern medicine and its principles—indeed we seem upon the eve of a dawn of the elaboration of a specific and radical treatment for disease, infectious diseases at least. In some cases this seems to have been accomplished already while in others a vast stride has been made in such direction by the demonstration, isolation and study of the various specific organisms upon which the etiology of these diseases seem dependent. While much has been accomplished in this field, it is chiefly in the sphere of preventive medicine, of praphylaxis, that the harvest has proven richest and most abundant. In the case of pulmonary tuberculosis, one of the most fatal as well as common of all diseases, the specific cause of the disease has been discovered, isolated, cultivated and studied. This has led to the demonstration that infection in many cases is largely due to the dessication and dissemination of tuberculous sputa as an impalpable powder.

A proper appreciation of the infectious and dangerous nature of the sputum has led to its destruction or sterilization. The result of this has been seen in some localities, where extended observations were made, in a reduction of the death-rate of the disease. When we consider the extent of the disease and its essentially fatal character, we can readily appreciate the fact that even a slight reduction in the mortality is as significant as important, indicating as it does the possibility of more than a slight saving of human life the world over. While the disease itself is by no means thoroughly amenable to treatment, yet its inception has been to some extent avoided by the destruction or sterilization of the infectious discharges (sputa) from those thus affected. Moreover attempts at internal and local treatment of the diseased condition, although hardly brilliantly encouraging, have not been altogether devoid of result. Of course in all treatment it must constantly borne in mind that the destructive action of the blood and tissues upon parasitic organisms is appreciably decreased by conditions of mal-nutrition and depressed vitality; or by surroundings unfavorable to the most healthy development of the body and its organs and tissues. By improving nutrition and placing the patient in the most favorble hygienic conditions which are *per se* least favorable to micro-organic development, we increase the germicidal power of the blood and tissues and their toxicity for tubercle bacilli as well as other bacteria.

To hygiene, to quarantine, to sanitary science, antisepsis and bacteriology (its logical outcome) have proven of the utmost value—indeed upon this rock are they now founded. Typhoid fever, Asiatic cholera and various other epidemic and infectious diseases have had their virulence comparatively circumscribed by rigid adherence to the dicta of antisepsis, especially by the complete disinfection of stools and other infectious discharges from those afflicted. This has been of decided value; when one is unable to control an infectious disease itself, it is of the utmost importance and value to be able to control the *spread* of the disease. It is difficult to estimate the absolute value of such power, because such value depends upon the casualties and fatalities *averted*, therefore it must remain an unknown yet indubitable quantity or factor. To what did we owe our freedom from the terrible scourge of cholera a few years ago but to the prompt institution of rigid sanitary and hygienic—that is, antiseptic—precautions? Indeed scientific men are so familiar with the abundant and practical results of the application of antiseptic principles in preventive medicine that is hardly seems necessary to do more than direct attention to them. Certainly they are as manifest as the successes of the use of antiseptics in various traumatisms and in the treatment of

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localized infectious conditions where accessible to local treatment.

Moreover bacteriology, the legitimate offspring of antisepsis, has also added greatly to the precision of diagnostic skill and science. What nosological chain of evidence is now complete and positive, in tuberculosis, that is devoid of a demonstration of the presence of the specific bacillus in the morbid secretion? What diagnosis of Asiatic cholera is a completed scientific entity at the present day unless the presence of the characteristic spirilla in the alvine discharges has been demonstrated? How indeed may we clearly and positively differentiate between diphtheria and several other infectious, inflammatory, membranous or pseudo-membranous diseases of the naso-pharynx except by a bacteriological demonstration of the presence or absence of the Klebs-Loeffler bacillus?

In the earlier days of even modern antisepsis substances were frequently employed which later and riper experience has proven devoid of value. The beginning, of all systems are necessarily crude, it is the oft repeated story of *per aspera ad astra*. In the utter absence of precise knowledge concerning the nature of the infecting agent, or germ, or its habits as well as habitat, it was not surprising to find the sanitarian devoting himself to futile efforts at destruction of imaginary foes with weapons almost as imaginary. For this same reason he frequently neglected to attack the much more material and infectious pathogenic principles of such things as tuberculous sputa or typhoid or choleraic excreta. We have now learned however that even if pyogenic and pathogenic bacteria do exist in the air (which is not to be doubted) the spray, as Stimson has amply shown, is thoroughly incapable of effecting their destruction. By far the greater danger of infection lies in the transfer of germs directly to the wound surface or other focus of infection by means of infected hands, instruments or dressings. Indeed in many cases, formerly, the physician or surgeon was himself the unsuspected and unconscious source of infection. Now however everything unsterilized is looked upon as a *possible* source of infection.

The vital resistance of bacterial organisms to various agents differs within certain limits for the various species; some exhibiting special susceptibility to special agents, for example that of the septic micrococcus to alcohol and of the *Bacterium termo* to boracic acid. There is therefore certainly some rational basis for the supposition that the various pathogenic germs may likewise exhibit similar susceptibilities to various agents administered medicinally with a view to the destruction of such germs, or rather to a prevention of their development. The antiseptic value of the substances so tested depends largely, indeed entirely upon their power to prevent the multiplication and proliferation of bacteria. This does not necessarily imply *germicidal* power, which it would hardly be within the bounds of reason to expect in internal administration. Indeed Sternberg has claimed that it is possible that the virture of mercuric chlorid and iodid in syphilis may be due to the *restrictive* power of even the small quantities of the drug exhibited. It would be impossible to introduce sufficient to *kill* the germ but he thinks it plausible at least that a sufficient quantity may be ingested to restrict its growth and development. Some agents which do not actually *kill* micro-organisms nevertheless possess considerable restrictive power and by virtue of this property become valuable antiseptics, this is especially true of boracic acid.

Clinical experience has demonstrated the value of various antiseptics which have been used experimentally in the treatment of various diseases in which there was reason to even suspect the presence of specific organisms. Indeed there are few practitioners who have not employed these agents internally for the cure of various forms of disease. In some instances their effect has been more or less prompt and satisfactory; in others probably only negative results have been attained while in a third class perhaps only toxic and untoward developments have arisen. In view of this diversity and varience in both results and opinions perhaps a discussion of the proper uses and limitations of antiseptic remedial agents, however brief or imperfect, may not be entirely out of place. Let us look at our facts in the light of the developments, established by both experiment and experience, of the past few years. It has been demonstrated beyond doubt that most of the infectious diseases at least are due to (*a*) specific organisms or (*b*) substances produced by the action of specific organisms; and that most, if not all, of these diseases are accompanied by more or less pyrexia. In many of these cases the specific organism has been isolated and determined, as is the case with the following:

Morbid Conditions.	Micro Organisms.
Suppuration.	The various pus cocci such as *Staphylococcus pyogenes aureus, albus, citrus* and the *Streptococcus pyogenes*.
Gonorrhea.	The *gonococcus* of Neisser.
Anthrax.	*Bacillus anthracis*.
Tuberculosis.	" *tuberculosis*.
Leprosy.	" *leprœ*
Glanders.	" *mallei*
Typhoid fever.	" *typhosus*
Tetanus.	" *tetani*.
Influenza.	" *influenzæ*
Diphtheria.	" *diphtheriæ*
Specific croupous pneumonia.	*Diplococcus pneumoniæ*.
Asiatic cholera.	*Spirillum choleræ*.
Relapsing fever.	*Spirochaete Obermeieri*.
Epidemic dysentery.	*Ameba dysenteriæ*.
Erysipelas	*Streptococcus erysipelatis*.

Then too certain other diseases such as variola, rubeo-

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la, scarlatina, yellow fever, typhus fever, syphilis, Oriental plague and several intestinal diseases are also infections in nature and doubtless have specifiic organisms which have not as yet been isolated. Let us glance briefly at these conditions.

In the case of suppuration the virtue and value of antisepsis is peculiarly marked. In a properly conducted treatment of a localized and accessible condition the formation of pus is now practically as rare as it was formerly common. Indeed as Gerster says, at the present day infection and suppuration in a fresh wound are due to technical faults or else errors of commission or omission on the part of the professional attendant in charge.

Anthrax and glanders are more commonly confined to the lower animals and hence have little interest to us in a consideration of the method and results of antiseptic treatment.

In the more modern and successful treatment of gonorrhea the tendency is to the use of irrigant antiseptic solutions of boracic acid, mercuric chlorid, potassic permanganate and hydrogen peroxid. In such cases the results given have been more than satisfactory. Indeed sterilization of the lower genito-urinary tract has been accomplished, it is even claimed, by the internal administration of such remedies as oil of wintergreen or boracic acid. Johnson had proven the appearance of boracic acid in the urine ten minutes after its administration by the mouth.

In the case of influenza, variola, rubeola, scarlatina, yellow fever, typhus fever and relapsing fever little or no benefit has been ascribed as yet to internal antiseptic medication, except in the case of influenza which some claim is distinctly modified by the inhalation of vaporized volatile antiseptics. In scarlatina also antiseptic inunctions in the latter stage have lessened the chances of infection of those coming in contact with the patient.

Epidemic dysentery, so long beyond the control of the physician, has at last been found more or less amen able to antiseptic rectal injections, especially of aqueous solutions of argentic nitrate.

Diphtheria is now recognized as an infectious disease of a local nature whose general symptoms are due to secondary absorption of the products of vital activity on the part of the germ. Its treatment is essentially antiseptic, being directed against the germ lodged in the membrane. The results of such treatment are so obvious that we need hardly do more than refer to them. The same is also true of erysipelas, whose streptococcus seems to be specially susceptible to the influence of carbolic acid. In Asiatic cholera it has been noticed that the spirilla are especially susceptible to the effect of the mineral acids, even in dilute solutions. Advantage has been taken of this fact in the treatment of the disease and it has also been combined with intestinal irrigation.

In the case of tetanus Dr. Schwarz, of Padua, cured a boy of the disease by means of the injection of an antitoxin which had been prepared by Tizzoni and Cattani from the specific bacillus. Schwartz likewise refers to three other similar cases which had been treated by Italian physicians in a similar manner with the successful result in each case. , Fraenkel had a similar experience in diphtheria.

It is now established beyond doubt that typhoid fever is caused by a specific organism introduced from without. Eberth found the bacillus present in the spleen, lymphatic glands and portions of the intestinal tract in twelve out of twenty-three cases, Koch in fifty per cent and Meyer in sixteen cases out of twenty. Lucatello reproduced the disease in ten out of thirteen cases by inoculation with blood from the spleen of a diseased animal. Neuhaus found the bacillus in the rose maculæ in nine out of fifteen cases. The chief seat of the disease is in the intestinal tract. It hardly seems rational to claim to be able to *kill* the germ under such surroundings, but can we not sweep the fecal matter from the bowel and by the use of proper antiseptics prevent the development and proliferation of the germ within the intestinal tract? The experiments of Fortchinskey are interesting in this connection. He used from ten to fifteen grain doses of boracic acid in two hundred and forty cases of typhoid fever during an epidemic; he was successful in two hundred and thirty-one cases—about ninety-six per cent. He claims that in the first three or five days fever and diarrhea diminished, tympanitis almost disappeared and the stools became normal in character.

It is hardly necessary at the present time to offer proofs of the existence of ptomaines and toxalbumins, this has long since been done by many competent and reliable observers. Indeed such substances may be real causative factors in disease or in the causation of dangerous and disagreeable symptoms. Such ptomaines or toxalbumins may originate either externally or internally, in either event their ingestion and absorption are more or less promptly followed by various acute phenomena resembling ordinarily the profound symptoms of acute alkaloidal poisoning. In many cases the disease may be primarily local but soon becomes constitutional, a result of the secondary absorption of the products eliminated by the germ in its life history. And the manifestations of this secondary or systemic infection are often more alarming and more dangerous than those of the primary local infection. After this general infection has taken place the local use of antiseptics is useless except in the attainment of a purely local result. The disturbing element is no longer circumscribed, it has now penetrated within the portals of the circulation whither we can hardly follow it, for the agent which by its toxic power has paralyzed the nervous system and threatens every function is quite beyond thh reach of germicides—it is amenable to no antiseptic. The cause is not an organism whose vitality may be destroyed, it is a definite compound whose physiological effects must be combated or whose chemical autonomy must be destroyed. After ptomaines, leucomaines or toxalbumins are formed they can hardly be antagonized by germi-

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cides, the germ must be destroyed *before* elaborating the substances. In other cases perhaps the germ itself may enter the circulation, leaving the site of primary infection; it is then inaccessible and proof against attacks of this nature. If in this latter case the future treatment of infectious disease is to be directed to specific germs rather than to the resulting phenomena we shall be forced to rely not upon mechanical destroyers but upon proteids or alkaloids which are either chemically or physiologically antagonistic, as well as to institute treatment with a view to an increase of the vital resistive power of the tissues and fluids. Here is the field of the medicine of the future. Germicides are only of value in so far as they destroy germs and prevent future elaboration of toxic products. Clearly then the inference is obvious—action must be taken sufficiently early to destroy the germ and render impossible secondary infection by absorption of toxic products.

In such diseases as are dependent upon secondary infection our main reliance as yet is to be placed in those remedies and measures which support and stimulate the vitality of the patient and promote his nutrition—"*da robur, fer auxilium.*"

It can be positively stated that fermentative or putrefactive micro-organisms do not exist actively in the intestinal tract when its secretions are normal. Kurlow and Wagner have proven conclusively that constant or specific microbes do not exist in the stomach and that those which do enter it with the ingesta are only accidental and temporary residents for they cannot live in the normally acid contents of that organ. In their opinion the normal gastric juice is indeed an exceedingly strong germicidal agent and when in full and normal activity destroys all others than the most prolific and tenacious germs, such as the bacilli of tuberculosis and anthrax; certain staphylococci also seem to be able to withstand its action. So Nature provides, as it were, a Cerberus to guard the portals of the alimentary tract or rather indeed to fortify its whole course, just as in her beneficence she has conferred germicidal properties upon the blood, certain fluids and the cellular elements, or their constituents, of certain organs.

If then the normal intestinal and gastric juices possess such desirable and valuable attributes may we not conclude that the vast majority of cases of infectious disease of such tract are direct results of a vitiation of or deficiency in the quality of each secretion? If such be the case then scientific therapeusis demands the destruction and elimination of infectious material by the institution of normal processes elaborating normal secretions as well as, if not more than, the direct antagonism of antiseptics themselves. Antiseptics may be of decided value however when they have the power of ridding depressed vitalities of the incubus of germ life.

While large numbers and varieties of micro-organisms do exist normally in the digestive tract they are ordinarily incapable of injurious action because they are rendered inert by the normal digestive fluids. But the moment, however, that such normal secretions, become perverted, vitiated or arrested the germs already there, or those introduced with the ingesta, are placed under conditions favorable to their development and as a consequence fermentative changes ensue. Once instituted who can foresee the result? Will it be simply a case of primary and local infection or will it result in a more complex and dangerous secondary and systemic infection? This depends entirely upon the nature of the germ or germs and also the facilities present which are favorable or unfavorable to successful and undisturbed development. When only a single local infection supervenes it may be and is possible by the use of proper antiseptic measures and the administration of proper antiseptic remedies in sufficient quantities to limit or arrest the morbid condition. Not always by destroying the organisms themselves, but by instituting a train of conditions unfavorable to their subsequent growth and development. This must, however, remain little else than palliative and temporary in effect so long as the secretions of the digestive tract are at fault and allowed to remain so. Furthermore we can anticipate little else than unsatisfactory results as long as we expect a small amount of antiseptic, such as is hardly more than sufficient to sterilize a superficial ulceration, to promptly, thoroughly and sufficiently disinfect the whole intestinal tract with its many square feet of mucous membrane, to say nothing of the accumulated infected secretions and excretions. Catharsis, elimination and irrigation must precede and mechanically prepare and make clean the way for the antiseptic which is to follow—that is, a minimum amount of work should be left for it.

[TO BE CONTINUED.]

Surgical Clinic at Harlem Hospital.

BY THOMAS H. MANLEY, M.D., NEW YORK.

I.—Operation for Relapsing Inguinal Hernia.

The first patient on whom we will operate this afternoon is an excellent case to illustrate the pathological conditions which are quite identical, but vary only in their anatomical composition, viz., laparotomy hernia after operation for appendicitis, and relapse after operation, for radical cure of inguinal hernia on the right side.

At one time within four months he had his abdominal cavity opened three times. First, for appendicitis; secondly, two months later, for the cure of inguinal hernia; and, thirdly, for the relief of a large hernia which had followed over the site of operation for an affected appendix. This was three months after the primary operation. Now, you will notice that there are two herniæ; one over the laparotomy wound again, and one which makes its way through the internal ring, directly pressing before it the thin scar tissue, which marks the site of the former operation over the inguinal canal; and this alone we will operate on. I will ask

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you to observe the laparotomy hernia, its size and situation, and I may say that it constitutes the most serious type of all hernia, inasmuch as there is no truss which will comfortably control it, and its tendency is to continue enlarging. Therefore, why an operation for appendicitis, in a working man, may be followed by this unfortunate sequel, which will unfit him for the remainder of his life from performing any laborious occupation, and render him practically an invalid. We undertake another operation on his relapsing inguinal hernia, not because we can promise him protection against another relapse, but for the reason that the present protrusion is very painful and sensitive, and cannot support truss pressure.

Our purpose will be to simply free the attachments of the sac, return the bowel, and so place the hernia that a truss will comfortably control it.

With this end in view, the sac will be liberated and isolated from the elements of the cord, the sac twisted, drawn down, and the neck divided, after ligation, on a level with the internal ring. Then the pillars of the internal ring will be hermetically sealed by silver wire sutures.

II —For Perforative Neurosis of the Lower Jaw.

Our second case is one of not a very common class, yet three such cases have been under my care within the past three years. It will be observed that he has a fistulous opening about midway between the symphysis and the angle of the lower jaw, or a little anterior to the facial artery and the inner border of the masseter muscle.

The patient, a young man of 22 years, never sustained an injury of the lower jaw, has been healthy, with no diseases except those of childhood.

This sore first came, he says, as an abscess, which followed a long spell of severe localized pain in the left side of the face. This abscess fills and drains, to fill and drain off again. He has been to various practitioners, has tried successively poultices, salves and washes, but without succeeding in healing the opening. It is now two years since the trouble commenced.

On passing in a probe I find that it at once comes in contact with necrosed bone, an 'here is a tortuous sinus of considerable length. Now we will open the mouth and inspect the teeth, for many of these pathological conditions have their origin in carious diseases of the roots of the molars. Hence we at once see that the crown of the third lower molar is hollowed out by decay, and the tooth is firm in its socket. Now recog nizing the original seat of the lesion, its radical removal will secure for him a prompt and permanent cure.

We will begin by extracting the diseased tooth, when we will find that a probe will readily pass from without into the mouth through a perforative necrosis in the jaw. This will be thoroughly scraped by a curette until healthy bone surface is reached. The hardened scar tissue over the body of the jaw will be dissected away, when all will be hermetically closed with fine silk, when we will drain through the mouth. There will be practically nothing to do but to rinse the mouth. As a rule, in a week healing is complete.

III.—Osteoplastic Operation for Compound Comminuted Fracture of the Head of the Radius.

The third case is a compound comminuted fracture of the head of the radius just below the insertion of the tendon of the biceps, attended with considerable displacement of the fragments. At the time he was entered it was found quite impossible to replace the ends of the bones in place.

On examination it was discovered that, although there was simultaneous dislocation of the oleeranon which has since been reduced, there is no displacement of the radial head from the sigmoid notch, nor is the orbicular ligament lacerated or the capsule opened. It was at first supposed that it would be necessary to drill the ends of the bones and wire them; besides carefully replace the divided periosteum, as the outlook for even approximate adjustment, without such mechanical interference, seemed unfavorable; therefore, two days ago it was decided to operate.

But time works wonders in fractures as in other lesions. Now as we expose the seat of injury we observe that the fragments are in quite perfect apposition and no interference is necessary. It should be always remembered, that the innate tendency of all fractured bones is to assume a normal position, and that any kind of splinting provides nothing except moderate support; active pressure never without imperilling the vitality of the limb. In this case after the muscles were relaxed and inflammatory spasm had passed away the free ends of the bones fall into place, and there they will remain until solid ossification is secured.

IV.—Fistula in Ano, Complicated With Internal and External Hemorrhoids.

Our next case is one of a class which constitutes a considerable proportion of our operative material lately viz., one of ano rectal disease, and they come here, they tell us, because we operate without ether. We employ the scalpel only in unusual and complicated cases. This man says that he has had piles for five years, and at times suffers the most intense distress; at one time from itching, then pain; at another from bleeding; and always such soreness that protracted sitting has been quite impossible. He has noticed lately that there has been a moisture about the anus which is becoming more abundant, and is always foul-smelling.

From the history it is clear that it is a case of hemorrhoids complicated with a fistula in ano. Therefore we must add to our treatment of the hemorrhoids an operation for the fistula, and let me say now that this case will be operated on under cocaine, and the hemorrhoids of the simple variety will be treated by pressure-mas-

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sage alone. The internal vascular papillomatous masses just inside the verge will be destroyed by the use of the Paquelin's cautery.

The fistula if superficial and short will be thoroughly curetted, when the entire walls, the inlet and outlet, will be swept away; after which by rest and cleanliness we will expect a rapid and permanent cure. If, however, it have a long deep channel, and it communicates with the bowel, it will be opened along its entire length; its walls will be completely dissected away, when it will be immediately closed its whole length by deep and superficial sutures.

By this simple plan we avoid the danger of sphyncteric impotence and will secure a prompt healing which otherwise, by granulation processes and cicatrizations, may occupy months.

The Various Forms of Blood Cells.—The classification of the corpuscles of normal human blood has been much expanded by Ehrlich, whose groupings are followed by Dr. W. S. Thayer in the *Johns Hopkins Hospital Reports*. The red corpuscles, the blood plates, and the colorless cells make three easily demonstrated kinds of corpuscles in human blood, but the colorless cells need to be subdivided into five varieties, according to their differing reactions to staining fluids. Lymphocytes are the small colorless cells approaching the red corpuscles in size, the body of the lymphocytes being filled with a large, round, deeply staining nucleus, while the protoplasm is represented by a small ring about the nucleus. Uninuclear leucocytes are larger cells, which have a relatively large amount of proto plasm. Transitional forms are those cells which have a similar appearance to the two foregoing varieties, but differ from them only by the nucleus showing certain indentations which may give to it the appearance of an hour-glass. Multinuclear neutrophiles are cells perhaps a trifle smaller than the large uninuclear elements, and having a single nucleus so irregular in shape that it may appear as several nuclei under a single focus of the microscope, thus forming a characteristic polymorphic nucleus, with a thick non staining granulation. Eosinophiles usually have a polymorphous nucleus, and contain the larger and more refractive eosin-staining granules. The protoplasm of the lymphocytes usually takes a red-violet color with a triple staining, while that of the large uninuclear elements has but a slight affinity for coloring matters. There exist, however, in all human blood a number of uninuclear and some multinuclear elements, which have a protoplasm that remains entirely unstained, loooking like a white spot or a small vacuole in the middle of the stained cell. Nucleated red blood cells, or normablasts, are found in the bone-marrow. In pathological conditions there are many abnormal varities of blood cells.

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Osteomyelitis.

It appears now to be an almost universally accepted fact that the staphylococcus aureus is the main and probably only cause of osteomyelitis, and other bacteria that have been found in osteomyelitic foci are supposed to be due to a mixed infection. Of much interest is the resemblance, almost congruity between the features of experimentally produced osteomyelitis and the osteomyelitis as observed in man. When cultures of the staphylococcus aureus are injected into a vein of young animals, rabbits, about ten or twelve weeks old, the epiphyeal ends of the long bones shows, after a time, foci of suppuration; other parts of the skeleton may also become involved according to the greater or lesser intensity of the infection. In older animals, however, similarly infected, the inflammatory process is not produced in the skeleton but in the muscles and internal organs unless a trauma of a bone has first been produced, when the suppuration will occur at the site of the trauma. Osteomyelitis may therefore be looked upon as a modified pyemia in which the locus minoris resistentiæ is the osseous tissue and particularly the tissue of those parts of the bone, where growth is most active, the epiphyses.

Until very recently it has been supposed that the simple presence of staphylococci in the blood was not

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sufficient to bring about an osteomyelitis, but that in addition to the presence of these micro-organisms a trauma was necessary, for experiments upon animals had failed to cause this process unless a trauma of some kind had been produced plus the injection of staphylococci into the circulation. The fact that this trauma is not necessary for the experimental production of osteomyelitis is of much import and will modify considerably the views upon pathological processes that are caused by the invasion of the tissues by bacteria.

The Action of Sparteine.

There has been considerable diversity of opinion with regard to the usefulness of sparteine as a cardiac and renal stimulant, the probable cause of the contradicting reports upon the value of this drug appearing to be due to an imperfect knowledge of its indications and dosage. In order to be effective it should be given in doses of one-fourth of a grain every two hours or half a grain every three or four hours. From all accounts so far gathered the remedy appears to be nearly as valuable as a heart stimulant as digitalis, but having the advantage over the latter drug by the absence of a cumulative effect and, when judiciously administered it never produces any alarming or fatal symptoms. When large doses are administered, headache, vertigo, palpitations, redness of the face and cardiac pain tingling and even loss of motor power in the lower extremities have been observed. Like digitalis the remedy is best administered without the admixture of other drugs in order to avoid incompatibility. Our personal experience with the drug has been too limited to give an opinion of much value, but in a few cases where digitalis had to be discontinued it has done good service in doses of half a grain, administered four times a day. It does not seem to produce anorexia or interfere with digestion.

Sparteine has been highly recommended in valvular as well as functional disease of the heart and very favorable reports have been made upon its employment for tobacco-heart.

The results obtained in affections of the heart have been described by many prominent men. Clarke, among American authors, has reported his results as follows: Hypertrophy of heart, when digitalis is contraindicated, the results were good; in mitral regurgitation the results were very striking. In aortic regurgitation in greatly enlarged and excited heart small doses were useful; in mitral stenosis the results were less and less pronounced; in palpitation, without organic disease of the heart, the result was immediate; in asthma the result was good but very tardy; in Grave's disease it occasioned great improvement. Lauggard had previously reported similar results.

Pawinski found that the effects of the remedy became pronounced in from thirty to forty minutes after its ingestion. He also found it serviceable in the functional cardiac disease of neurasthenic and anemic individuals, and of heavy drinkers and excessive smokers. Similar good results were obtained in asthma, Graves' disease, chronic bronchitis, and emphysema, particularly in those cases in which digitalis was not tolerated. The author warns against the use of the medicament in cases in which the cardiac muscle is believed to have undergone degeneration.

David Cerna, of Galveston, Texas, has made experiments with the drug which have been published in the New York *Medical Journal* as follows:

"From a study of the literature of the subject, and particularly from the results obtained in my experimental research, I have found, in corroboration of previous experiments, that sparteine, one of the active principles of *Cytisus scoporius* or *Sarothamnus* (?) *scoparius*, or common broom-plant, is, not unlike digitalis, a decided stimulant to the general circulation. On the dog, I found that the drug, given hypodermically or intravenously in what may be called therapeutic amounts, acted particularly as a cardiac stimulant, increasing the arterial pressure and the force of the pulse. The rate of the heart-beat is at first somewhat accelerated, and is soon followed, however, by a distinct slowness, but the energy of the cardiac contractions is considerably increased, as evidenced by the large size and fullness of the individual pulse waves. This augmented cardiac force is also observed when the drug is applied directly to the batrachian viscus *in situ*, or when the isolated heart of the frog is placed in a sparteine solution, as well as when it is administered subcutaneously to other animals or to man. Large doses cause a fall of the arterial pressure, and even when the column of mercury in the manometer is far below the original height the increased cardiac energy is apt to persist. I have likewise noticed that under poisonous amounts of the agent the heart usually ceases in systole, and generally *after* the stoppage of the respiration, death being therefore produced by failure of the latter function. The drug undoubtedly acts powerfully upon the heart itself, whether on its intrinsic ganglia, or on the cardiac muscle, or on both; it exercises some action on the vasomotor system also."

In the article referred to Dr. Cerna further states:

"Though not in a very extended manner, I myself have tried sparteine in practical medicine. Here I have found the drug to act only as an energetic heart tonic, but also as an excellent diuretic. In the former instance—that is, as a cardiac stimulant—I have employed the remedy, with most satisfactory results, in nervous palpitation, in irritable heart due to excessive use of tobacco, and in that similar condition of the viscus caused by mere muscular weakness or loss of inhibitory power.

"I have observed good effects following the use of the drug not only in functional disorders of the heart, but likewise in valvular affections. In these cases, and much more particularly in those in which digitalis is contraindicated or not well borne, sparteine is highly beneficial, and not perhaps as a curative agent in most

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instances, but simply as a regulator of the circulation, thereby causing, at least for the time being, a more or less prolonged relief. Again, in dropsies of cardiac origin as well as in those depending on renal disease, the drug under consideration has produced as a diuretic marked results in my hands. The action of sparteine on the circulation is very decided, and it is probably due to a local increase of the arterial pressure in the organ, the result of a general action, that the drug enhances the activity of the kidney, for, as far as has been determined by experimental studies, sparteine possesses no true diuretic virtues like caffeine, for instance, which directly stimulates the renal epithelium.

"In breathlessness occurring in obese persons, due probably to a fatty infiltration of the heart, as well as in the shortness of breath of anemic patients, the em ployment of sparteine has been followed by decided benefit, and similar results have I observed in cases of bronchitis and in a considerable number of asthmatic individuals.

"It may be said, indeed, that the range of usefulness of sparteine is not a limited one, yet the chief service rendered by the drug in the treatment of disease, not only as a substitute for more powerful medicaments belonging to the same class (like digitalis, strophantus, adonis, convallaria, etc.), but as a prompt cardiac and renal stimulant in itself, is made manifest particularly in those conditions characterized by a weakened circulation due either to functional or to organic changes. The remedy generally relieves and sometimes cures. I have never seen disagreeable, much less poisonous, effects following the administration of the drug even when ingested in comparatively large quantities, and I may here suggest that the failure of this agent to do good in the hands of some practitioners has been, I believe, chiefly due to the fact that it has not been employed in proper doses or for a sufficient length of time. Probably, on the other hand, the quality of the drug used has been overlooked. I have administered sparteine by the mouth or subcutaneously as the sulphate, and in this form it has generally produced the desired effects.

"I am so convinced of the stimulating action of sparteine upon the circulation that I fully concur in the opinion of See, in that this drug, as far as our knowledge goes, is superior to all other similar remedies in its ability to steady the most irregular pulse. Hence, as noticed by various observers, chiefly Pawinski, Clarke, Wood, and others, the usefulness of sparteine in such diseases as exophthalmic goitre, in which an irregularity of the cardiac action is a prominent and often most distressing symptom. I myself have treated cases of this latter affection with most striking results, using sparteine to the exclusion of all other heart tonics.

"Indeed, next to digitalis, sparteine has been, according to my experience, the most effective stimulant to the circulation, and often has given me more satisfac tory results than the former remedy. Sparteine, though less powerful perhaps than digitalis, the prince of cardiac stimulants, has a very decided advantage over the latter agent in that it has no cumulative action."

Many other authors have reported favorably upon the action of sparteine as a heart stimulant and diuretic; but, although the drug seems to deserve already a prominent place in our materia medica, there is much room for further investigation and verification of the results so far published, particulary as some authors, among them Osler, are not near so enthusiastic about the remedy as others.

If this artice will have the effect of stimulating clinical research with this remedy, among the readers of the REVIEW its object will have been accomplished.

CORRESPONDENCE

Bermuda.—Winter Days in Summer Islands.—Notes from the Land of the Lily and the Rose.

Editor MEDICAL REVIEW.—Out from the gray and the gloom of a foggy February morning steamed the Trinidad to a summery land at sea, bearing the biggest boat load of tourists ever bound from New York to Bermuda.

The early advent of Lent doubtless had much to do with this unusual tide of travel, and the fashion still obtains of waiting till nearly the end of winter before coming here.

From the snow and the slush, the hail and the cold of New York and Brooklyn, to the warm sunshine and balmy breezes of Bermuda—where life out of doors is a perennial pleasure—is a change so great that many fail to realize it, and nothing less than a personal experience will convince a doubting searcher for health or pleasure that here is a charming country where the real rivals the ideal, and where fact touches fancy, in the picture painted after conning these story of the evergreen isles.

We sailed from the streets of Gotham and the shores of Long Island heavily mantled in wintry garb, and though head winds and high seas delayed our coming and laid some of us low, the ills that betide a luckless traveler at sea were soon forgotten—for most troubles have an ending, and seasickness isn't bad after it's over—in the gladsome sight of emerald hills, and white-roofed, white-walled houses in their rimming of green, glistening under a sunny sky.

The first thing noted by those who have not been here for a couple of seasons is the absence of the antiquated plan for getting ashore, which once so much amused new comers. The water at the wharf not being deep enough to allow of anchoring alongside, and the city fathers refusing to build a proper pier, two huge poles were hauled on board by steamer windlass,

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and along these crawled several agile ebony athletes, with cross bars and ropes, lashed the bars firmly, laid planks lengthwise, and on these passengers went ashore. Now, a spacious granite quay permits close coming of steamers, and the style of disembarking is quite up to date.

The march of improvement in Hamilton has been marked during the last year or two. The most notable advance, so far as concerns the Front Street pedestrian, is the fine granite pavement that now extends the whole length of that thoroughfare. The contrast in comfort with the ancient and disreputable brick sidewalk, is one that must be felt to be appreciated. Architecturally, the forward movement has been decided, both in public and private. Of the former, in Hamilton, the most prominent relates to the House of Parliament, which has been enlarged by the addition of a colonnade on the south front, handsome arcades on the other sides, and an ornate tower, of which the most striking object is a handsome clock, made by Gillert & Johnston, of Croydon, near London. These additions had been for several years in contemplation, but the project languished until 1887, when a joint committee of the Bermuda Council and Assembly reported in its favor as the most suitable Bermudian memorial of Victoria's fifty years' reign, and though progress was slow, the tower —which is built of the native coral, with a mixture of red bricks and concrete, with terra cotta trimmings— was completed late last year, the clocks put in position, and at midnight 'twixt '93 and '94, the dials—each seven feet wide—were illuminated and watched by a large crowd, as it struck out the closing hour and farewell of the parting year. This clock—long waited for—is, truly a timely addition to the needs and attractions of Bermuda; and topping the tall tower of the Parliament House, which is on one of the highest points in town, it makes a landmark noted for miles around. May its life be long and strikingly useful!

"All things come to him who waits," and history has repeated itself along this line to the Mudian native and visitor who so long have been waiting for the finishing of the new Government House. In 1882, an act was passed, giving $40,000 for its erection. Work was begun, but the money proved not enough, and when more was asked for, it was refused. Work ceased, was resumed, again ended, and this shuttlecock sort of business went on for years, till, in 1890, it was at last decided to carry the work to completion, and in July, 1892, the present governor became its occupant. It is a handsome structure, Spanish in style, of which the Bermudians may well be proud, and from the towers can be had charmingly varied views that compass almost the whole country. The approaches are not yet complete, and the opportunity for some superb landscape gardening by terracing the hillside and flowering the meadow between the House and Hamilton is such an exceptionally fine one, that Bermudian enterprise should forge to the front and make it what it would surely be—a thing of beauty. The old House was razed in the autumn of '92, and the garden, with the semi-tropical flowers and foliage, alone remain.

The houses in Bermuda are, almost without exception, built of coral composing the island structure, which is white, and so soft that it can be cut and trimmed with saw and chisel, but hardens promptly on exposure. The roofs are thin slates of the same material. These are annually whitewashed, and rising mid their emerald surroundings—the islands are always green—give a charm to the landscape that must be seen to be appreciated. Each dwelling is required by law to be provided with a tank for water taken from the roof, which, with the yearly whitening, ensures its purity. At various places, on hillside and elsewhere, are shallow basins leading to reservoirs cut in the coral, to catch and retain the rain. There are wells, but the water is too brackish to drink. Recently, the supply has been increased by several artesian, the water of which is good.

The drives in Bermuda are delightful, smooth coral roads, while ever-varying vistas of land and ocean make them specially attractive. The service is good and cheap—one dollar the first hour and half that each after hour. The fine roads give a special charm to cycling, and lovers of this sport find the wheel an added pleasure to the winter outing.

The health of these islands is almost always good. A healthy October presages a healthful winter. There has been no epidemic in many years. The greatest mortality is under five, and among the blacks, largely due to neglect. The leading death cause is consumption. Births and deaths are fully recorded. The former lead long lives, 85 to 95 are not uncommon. There are nine resident medical men, besides ten army and five naval surgeons. There are two health officers—a post surgeon at St. George, and a local one at Hamilton. A general board of health is composed of the governor and council—the latter, nine leading non-professional men. Quarantine regulations are careful and complete.

At the last session of Parliament the question of sanitation and a remodeling of the health act of 1864 was debated, and the Attorney General moved to introduce a new bill, but strange to say, the motion was lost. One of the features of the new bill was for the formation of a General Board of Health to consist of the Colonial Secretary, one member of the Council, two members of the Assembly, the senior medical officer of the Army and of the Navy, three civilian doctors, and a resident physician, who was to be Sanitary Inspector, Clerk of the General Board and adviser of the local boards, and also Superintendent of Insane Asylum and Health Officer for Hamilton: not to engage in private practice and to have a salary of $2,000. Later in the session a bill was introduced to import from England a portable steam disinfecting apparatus, but this also failed. Quite likely another bill will be presented at the session of the Assembly next May.

La Grippe has prevailed quite extensively in the south and west of the country since January; but few cases were fatal. The health of the troops stands high.

The new Army Hospital—north of Camp Prospect, on high ground, apart from the barracks—was completed and occupied towards the close of '92. Every advanced sanitary appliance is to be found there, and there is a separate building for infectious disease.

Through the effort of Dr. Harvey—one of the leading medical men of Bermuda—a cottage hospital has been erected about a half mile from Hamilton and is now open, in charge of two women graduates of American training schools. Nine-tenths of its cost was given by Americans. It may prove of much value should contagious disease occur among visitors. The nurses are at command of any one in Bermuda, when not on duty at the Hospital, and their skilled service may be a boon to many. Great credit is due Dr. Harvery for this good work. The doctor, who is also Medical Director of the Bermuda Insane Asylum, has been giving a course of lectures on sanitary subjects, and is now engaged in a scheme for promoting the sewerage system of Hamilton.

Bermudians assert their climate the most equable in the world and temperature tables support this claim. Statistics prove their winter more even than that of Los Angeles, San Diego, Jacksonville or St. Augustine. The average for the season of '88-'89 was 68; for '89-'90, 68; for '90-'91, 64; a really remarkable record. As a rule, October, November, April, May and June are most agreeable. During December, January and February, however, the weather much of the time is charming. A clerical friend, convalescing from acute lung disease, who came to Bermuda by my advice in December, returned in a month delighted with his experience, having added twenty pounds to his avoirdupois, and enjoyed the luxury of an ocean bath on Christmas. March is the worst month, when east winds, low barometer and thermometer, and frequent showers are apt to prevail. The porous soil admits of outings soon after a heavy rain. As in England, mornings often betoken a stormy day, but the clouds roll by to a beautiful afternoon. July and August, to the "outside Barbarian," are too warm for his liking, and September, with its sultry, breezeless days, is most oppressive of all. May and June, as regards floral beauty of forest and field, offer special attractions, but fashion at present decrees that, during March the full tide of travel shall crowd steamers, hotels and boarding houses to discomfort. The highest pleasure and good from a sojourn in this lovely little land will never be found till this senseless fad has had its day.

Twenty-four of the twenty-six who came with me are here for the first time, and all have reason to felicitate themselves, for the weather, fine on arrival, has bettered, till now it is truly ideal. A lucky lot indeed we are, for Jupiter Pluvius has been in one of his kindliest moods, and only one day of the now nearing a dozen, has he showered upon us enough to prevent our usual daily outing.

And, too, what a charming contrast along thermal lines, for while you luckless mortals have been wrestling with the coldest weather known for years—close to zero, and part of the time a blizzard-like—and shivering and shaking in an effort to keep warm, we, last Sunday, went to the garrison service at Camp Prospect in open carriages, and at its close, sat in them with the sun streaming on us, and listened to a delightful open-air concert given by the regimental band of sixty pieces, on the sward of a cedar grove near the Camp! Such a story—which may seem like a fairy tale—will give some idea of the changed conditions as regards winter comfort that obtain less than a two days' sail from New York, and which, well appreciated, must convince those seeking health or pleasure that Bermuda is one of the most charming winter resorts in the world, and as to ease of access for Americans, without a peer.

The Trinidad newly equipped, made her first trip from New York this year in forty-six and a half hours. This will be welcome news to many, who, like the writer, so much enjoy an outing here, and must tend to make the travel tide hither higher than it has ever been; and when, as is expected, a still swifter steamer is put on the line, there is reason to think the voyage can be made in thirty-six to forty hours. Then indeed will those seeking surcease from toil mid surroundings that tend quickly to rest and relief, find this boon almost at their doors; for, to the writer—here for the fifth time, and who, again and again, has been abroad—Bermuda is the most restful place on earth.

And where a people so much in need of such bounty as Americans! Where a folk, so many of whom are rushing along at "the pace that kills!" almost tumbling over each other in their haste for fame or fortune, and so making themselves victims of tire and insomnia, who here might "throw physic to the dogs," and get that which more than drugs or doctors will give them, a new lease of life and so add to happiness and length of days.

This is a typically Bermudian day. A gentle sou' west wind is blowing; bright sunshine, the balmy air, laden with life's elixir, which blows so often over this favored isle, and song of birds blend to make alluring the matchless beauty of a land so unlike our own. A well-known man, lately here, told a friend of ours that he had found the Garden of Eden. It is a Paradise for many—*not all*, for there are those who should keep well away from Bermuda. It is *not* the place for *consumptives*, or any far along in wasting disease. But for those battling with neuralgia, or coming back to health from acute illness, or *narcotic disease*, it is in truth a happy land, and for many hapless mortals tossing in wakeful nights, it is a peerless place in which to woo and win the good angel of sleep. For the worn and the weary, for tired pilgrims along any line, be it of brain or brawn, it is a Mecca to which they can come with high hope of getting rest and relief.

It seems strange more do not come here. The fact is few realize that less than forty-eight hours from New York is an elysium where frost and the white mantle of winter are unknown; where roses bloom the year round, out of doors; and where the sleep-giving, health-

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bringing breezes, the panoramic beauty of sea and shore, and the quiet, restful, lotus-land-like life combine to make halcyon days.

Bermuda is good too for those *not* ill. Let the busy American doctor make a break in his over-active life—take a fortnight off, and a ten days' sojourn in these sun-lit isles, and, my word for it—if conditions favor—he will lay in a store of happy memories for many a time to come. J. B. MATTISON, M.D.

Hamilton, Bermuda, February 28, 1894.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, May 19, 1894, the President, W. B. OUTTEN, M.D., in the chair.

DR. W. B. OUTTEN presented a patient, and a specimen of "Multiple Fibroma," which had been removed from this patient about one year ago. The tumor was located in the superior and posterior portions of the bladder walls, and in operating, these portions of the viscus had to be removed. The bladder walls were stitched to the abdominal parietes, and drainage instituted through the penis and supra-pubically. This latter drainage was accomplished by a Trendelenburg tube, but was discontinued after the fifth day. Urine continued to escape through the opening, however, the wound became infected, and a ventral hernia is the result.

A fistulous opening still remains, the bladder is drawn down during micturition, and the patient is in a very uncomfortable condition. He is desirous of having some means instituted to render him more comfortable.

DR. F. J. LUTZ suggested, that a surgical operation would be advisable, and would, in all probability, render the patient much more comfortable. He advised the closing of the fistulous opening by excising the cicatrix, and also obliterating the hernial opening by this procedure. In order to keep the bladder completely at rest during the healing process, it would have to be drained, preferably by perineal section. Of course, the bladder cannot be enlarged, and the patient will be obliged to void his urine quite frequently, but his condition will be far more comfortable than it is at present. The hernia will continue to grow larger if not operated upon, on account of the continual strain by the contracting bladder, upon a very elastic cicatricial tissue.

DR. MEISENBACH agreed with Dr. Lutz, that an operation for closing the fistula and the hernial opening would be of great benefit to the patient. He thought the perineal section would be the proper method of procedure.

DR. J. K. BAUDUY presented a specimen of "Brain Tumor," removed post-mortem, by Dr. Drury, of Altamont, Ill. He presented also a chart from Dr. Drury, illustrating the location of the growth.

He read the following history of the case:

Grant B., farmer; aged 32; born of healthy parents, and was himself, up to the time of his present ailment, always strong and healthy. Weight about 170 to 180 pounds.

Family history.—Ancestors lived to old age, but some are said to have been troubled with cancer. Grandmother and aunt died of some female trouble, presumably cancer of the womb. Both, however, lived to be quite old. Great-grandmother had a growth on her breast, which was also diagnosticated as cancer, but she lived to be quite old. Do not know whether growth caused death or not. He had a sister, whose mind was unbalanced, and who was in an asylum for a short time for insanity, supposed to have resulted from the combined causes of a puerperal condition and abuse from her husband.

Present trouble.—Patient was thrown from a buggy in November, 1887, at which time he sustained an injury that confined him to the bed and house for about six weeks. Four years later, on the day when his trouble first appeared, in June, 1891, while he was asleep, he had a severe convulsion, and afterwards vomited freely. He complained of headache when conciousness returned, but slept until morning. The next day he was able to go about, but still complained of headache. Had a slight convulsive seizure the following November. With this exception, he appeared well throughout the summer and winter of this year. It was noticed, however, that he was irritable, which was not his natural condition. At this time he made several business ventures, in which he lost considerable money. He then moved North and changed his business, but did not seem careful in the management of his affairs, as had been his custom.

About the first of June, 1892, he had another convulsive attack. Had not been well for about a month preceding this convulsion, having experienced headaches and gastric disturbances. Health improved again during the summer, but he had another slight convulsion in August. In the spring of 1893, he took charge of a large farm, but soon found that he was unable to attend to it. In April of this year, he had his fifth convulsion, but from this time he had no recurrence thereof until just before he died, when he had three or four consecutive convulsions. He did not complain much of his head, only during the period of convulsive seizures, until the spring of 1893, a year before his death, from which time on he seldom passed a day free from cephalalgia, not constant, but coming in paroxysms. The pain was principally in his forehead, and was more pronounced over the right eye, recurring in severe paroxysms and extending to other protions of the head. At times he was quite free from pain, when it would come on suddenly and be sharp and lancinating in char-

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acter, lasting for a few minutes and then passing away, to recur again shortly; or, when very severe, lasting for several hours. Pain was excited and aggravated by ordinary conversation, any mental worry, or the heat of the sun. Oftentimes, when arising in the morning, he would state: "I feel as well as I ever did," but would soon, perhaps, be suffering with cephalalgia.

Last June, he visited Dr. Drury, in Altamont, driving thirteen miles in a wagon. The sun affected him so severely at this time, that, on his arrival, he was unconcious and remained so for two or three hours. From the effects of this ride he did not recover for a few days.

At this period, Dr. Drury observed, that his left leg occasionally developed a paroxysm of convulsive jerking whilst walking, the toe of the shoe impinging on the floor, the heel lifted as if in the act of walking, and the left knee either striking against, or looking under the right. When these attacks developed he would sit or lay down, as otherwise, he would have fallen. He never lost conciousness during these attacks. This peculiar and morbid condition gradually increased, and a little later his left arm became affected in a similar manner. It would sometimes jerk convulsively whilst sitting in a chair. At first these convulsive Jacksonian paroxysms occurred once or twice a day, and then, perhaps, not for three or four days. He was finally entirely paralyzed on the left side. This occurred about the first of last November, when left hemiplegia was complete.

Right arm and leg ultimately bncame unsteady and vision apparently affected. He could neither read intelligibly nor write legibly; his mind grew more and more obtunded. For several days, while his condition was most pronounced, he did not even recognize his wife. He grew forgetful, and imagined things to have happened that had never occurred. Urine, towards the last, was passed involuntarily. At this period and several times subsequently, he suffered severely with rachalgia. He eventually gradually improved again, physically, and somewhat mentally, until he could move about the house and in the yard once more, with slight assistance.

When he attempted to laugh, the right corner of the mouth would draw back, which seemed to point to left facial palsy. Once there was noticed a jerking of the eyes and a quick turning of the head to the right when suffering severe pain—"quasi deviation" of the head became manifest. Dysphagia occurred temporarily and then disappeared, but returned subsequently, about a month before he died. Sensation, smell and taste were normal. Hearing was apparently normal; but this fact might be questioned, as it was oftentime necessary to speak to him the second time before he would respond. It was inferred, however, that this resulted in consequence of his obtuse mental condition. Speech was never involved. No anorexia existed and there was but little loss of flesh. Bowels were almost continually constipated.

In January, his left hand and foot became swollen, also face and eyes were puffy. Pupils ordinarily were normal, but sometimes were dilated.

On the evening of April 17, he became suddenly worse. He sustained three or four convulsive attacks, then rallied somewhat during the night, recoguizing his friends next morning until about noon, when he finally became comatose, and so continued until he died. It should have been stated, that towards the termination of his life, he lost the use of his right leg, but was able to move his right hand, which was subject to paroxysms of trembliug up to a short time prior to his death.

At the autopsy, held on the morning of April 21, a tumor about the size of a walnut was found, at the middle of the first right superior frontal convolution. Immediately below, and extending downward and backward on the right side of the longitudinal fissure, a cyst existed, containing about one-half pint of serum. The dura was adherent for about two and one-half inches, near the longitudinal fissure. In the immediate vicinity of the growth, a small portion of brain tissue was disorganized, and was apparently disintegrating. Otherwise the entire brain appeared normal.

Proceeding with the discussion of the case, the doctor said, that the clinical manifestations pointed to brain tumor, the most salient points being, the violent and persistent cephalalgia, the vomiting and gastric disturbance, and the Jacksonian epilepsy. Judging from the order of involvement by the epileptic seizures—tetanic convulsions of the left leg, extending into the left arm, and, finally, clonic convulsions of the right leg—one would be led to locate the tumor in the motor region. These symptoms pointed to its existence in the leg center, situated at the top of the ascending frontal and ascending parietal convolutions—or to the para-central lobule. An explanation of the cerebral localization of this case, will disclose why the tumor was not found where the symptoms would naturally lead one to locate it. Some of the interesting features are, the completeness of the clinical pisture; the history of hereditary nervous diseases; the etiology of the trouble; and the peculiar motor disturbances, manifested by the Jacksonian epilepsy, without an involvement of the motor area by the tumor proper, but produced by an impingement upon these regions by transmitted pressure.

When we take the microscopical examination of this specimen into consideration which leads to a diagnosis of glioma; and when we consider the peculiar tendencies and characteristics of this form of new growth; many of the clinical manifestations may be explained. A glioma is merely a variety of sarcoma, the only difference being, that glioma affect the central nervous system, and result from a proliferation of the neuroglea proper, while sarcomatous growths are merely a proliferation of embryonic connective tissue. The gliomatous growths may be divided into myxo-gliomata and fibro-gliomata; the former occurring quite frequently, while the latter are rare. Then we should not forget,

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that myxo-gliomata are soft and disintegrate very readily. They have also a peculiar infiltrative and hemorrhagic tendency, and this brings us to one of the most important points in connection with this autopsy. In connection with the glioma, there was found a cyst containing a half pint of serum. The question naturally arises, what was the origin of the cyst? Was it due to a traumatic hemorrhagic infiltration resulting from the original injury to the head, or was it a result of the inherent tendency of gliomata to hemorrhagic infiltrations? In the speaker's opinion, the cystic degeneration was the result of an extravasation of blood into the adjacent structures, which was produced by the glioma. This tendency is ascribed to the tumor by all the most recent and high authorities. Gliomatous growths are single in nine of ten cases; and occur, usually, in the convexity of the convolutions—at the points most exposed to injury by external violence—as, for instance, in the anterior frontal lobe.

Proceeding with the question of localization of this tumor from the clinical features, the speaker said: We know that the frontal convolutions preside over man's intellectuality. The earlier developments of traumatic insanity—insanity due to an injury to the head—are changes in the man's character, in many instances. The insanity develops gradually, the man dies, and there will be found a diseased condition in the gray substance of the convolutions of the hemisphere in the frontal region. In this case there was impairment of intellectuality, which pointed to an involvement of the anteror cerebral lobes. But, the projecting fibers of the anterior cerebral lobes, pass downward through the nucleus of the pons varolii, and frequently lose themselves in the cerebellum. The disturbing factor might have been somewhere along the course of these fibers. This would be somewhat difficult to determine, as the cerebellum is the "terra incognita" in the physiology of the brain; we know absolutely nothing of the functions of this part.

But we must account for the involvement of the nervous centers which produced these symptoms of Jacksonian epilepsy. They could be produced only in consequence of direct pressure upon the involved centers, or by transmitted pressure, resulting from an involvement of adjacent tissues. They were certainly not produced by direct pressure of the tumor; it was not situated in the Rolandic region. We can account for the manifestations in four ways:

1. Collateral edema might have developed in the immediate vicinity, and have propagated in the Rolandic region.

2. There might have been a proliferation of connective tissue in the neighborhood of the tumor.

3. The gradual development of the cyst adjacent to the tumor, propagating more or less towards the Rolandic region; involving the leg center, interfering with its function, and developing Jacksonian epilepsy first, and then hemiplegia, which always follows after the irritative period has subsided and tissue disintegration has developed.

4. The peculiar infiltrative characteristic of the glioma. This increases directly in ratio to the increase of the tumor itself, spreads gradually to the neighboring tissue and interferes with the proper function of the part.

Dr. Rohlfing said, that he could not make a positive diagnosis from the specimen, as it had been preserved in alcohol, and had, in consequence, undergone considerable shrinkage. It should have been preserved in Mueller's fluid, a rule which applies to all brain and cord specimens. The tumor, as far as could be determined at present, might have been taken from any part of the body.

However, it looks like a circumscribed growth, with an attachment to the dura. Under a high power lens, the small cells seem to be sarcomatous in character, no strictly glioma cells being found. No star-shaped cells or branches were found. The sarcomatous tissue seems to predominate, and there is also present a great deal of connective and contractile tissue, hyaline in character. Owing to the changed condition resulting from the alcohol, it might be taken for a fibro-sarcoma.

Dr. Bremer said, that he agreed with Dr. Bauduy in the main, especially with his physiology. There is no doubt, that in a great many of these cases, a trauma can be demonstrated to have occurred at some time prior to the first manifestations of the tumor. He did not agree so well with some statements of the doctor, in regard to the physiology of the frontal convolutions. We should remember that the tumor was on the right side of the brain, and it is a well known fact, that the right hemisphere has very little to do with intellectuality. We are half brained, or left brained, in this respect. If the left hemisphere, especially the left frontal convolutions, is in any way involved in the morbid process, there is little difficulty in demonstrating it. There is loss of memory, mental hebetude of some sort; in fact, there is a change in the intellectuality of the individual. But the tumor may occupy the right frontal convolutions, or the whole right fore brain for that matter, without, in many instances, producing mental symptoms.

The speaker was inclined to believe, that the cyst was the cause of the symptoms; that there was a primary tumor at the site of the cyst, which, when it broke down, grew in another direction; and that the tumor in the frontal convolution developed secondarily. We should bear in mind, that the first symptoms developed in the left leg, that became paretic, and afterwards there were tremors.

He doubted that there could be diagnosticated epileptic seizures of a true Jacksonian character, from the clinical history of this case. Jacksonian and cortical epilepsy, are equivalent to the same thing, the peculiarities of which are, the preservation of conciousness, and the peculiar physiological sequence of the members or parts of the body involved. The epilepsy may begin in the face, go to the arm, and then into the leg; or it

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may begin in the leg, travel to the arm, and then involve the face. That constitutes true cortical or Jacksonian epilepsy.

In the case reported there were tremors, which are produced whenever there is an interruption—either by pressure, or by destruction or irritation—of the leading fibers of the central ovule; and in these cases, the tumor is sub-cortical. Now, the cyst seems to have been subcortical, and below the motor area, that is, below the Rolandic region; and, in all probability, it involved or was very near the radiations that come from the paracentral lobule, or upper portion of the upper central and parietal convolutions, which constitute the leg centers.

The reason for supposing that it was the cyst, and not the anteriorly situated tumor that produced the symptoms, is the fact that the other leg became paralyzed also. We must remember, that one leg center lies just opposite the other, and that if pressure be made upon one side, the other side is pretty apt to be pressed upon also. The leg center is the para-central lobule, and if cyst is so situated as to press upon one lobule, it is so near the neighborhood of the other lobule, that the transmitted pressure will produce paralysis of the opposite side, also.

He repeated that a tremor is a symptom, not of a cortical lesion, but of an interruption or irritation of the conducting fibers. He cited a case of an extensive cerebral tumor, an ecchinococcus multiplex, which involved almost the whole depth of the brain substance, but which had pushed aside the conducting fibers, and had never produced decided epilepsy.

This tumor seems to have been situated at the foot of the first frontal convolution, which, according to modern interpretation, is the shoulder center. The speaker was able to demonstrate this fact, almost to a mathematical certainty, in a case which will be published in the *American Journal of the Medical Sciences.*

The speaker called attention to a research going on at present, as to cerebral atrophy; that is, atrophy due to a cerebral lesion, whithout intervention of a lesion in the descending pyramidal tract, or in the anterior horns of the spinal medulla.

Up to three or four years ago, whenever a muscular atrophy occurred, the lesion was always looked for in the spinal cord, and not in the brain. Of late, a number of cases have occurred in which there was pronounced atrophy, and in which a cerebral lesion existed, without a descending degeneration, and without an involvement of the anterior ganglia.

As far as operation in this case is concerned, the speaker did not believe that there would have been a permanent cure. Owing to the infiltrating nature of glioma and the degeneration accompanying sarcoma, it is difficult to determine just how far to go. Even in very extensive operations, where apparently all diseased tissue has been removed, the probability is that it will recur. He could not recall a single case recorded, where a glioma was successfully and permanently removed.

Dr. F. R. Fry thought, the specimen would have been more interesting, if it had been accompanied by a portion of the brain, especially that portion lying immediately adjacent to the cyst. It would have given a better basis upon which to argue, as to the cause of the paralysis and the symptoms of irritation.

He inclined to Dr. Bremer's view, that the spasmodic symptoms in this case, are hardly to be recognized as Jacksonian, at least, they are not of a typical character.

The point made by Dr. Rohlfing, in regard to the preservation of brain specimens in Mueller's fluid instead of in alcohol, was worth more than passing notice. The examination leads to more definite results if the specimen is properly preserved.

He did not think that this tumor could have been removed successfully and the patient's life saved. The operation might have resulted in temporary benefit, but it would, in all probability, have cut short the patient's suffering.

Dr. Charles Barck could not agree with Dr. Bauduy, that this tumor is a glioma. The microscopical appearance does not support that diagnosis. The tumor is too sharply defined; the contours are too round, and the specimen is too hard for a glioma, even considering the period during which it has been in alcohol. The second microscopical section is a typical picture of a fibro-sarcoma, containing an abundance of both sarcomatous and fibrous tissue. Then, too, gliomata are usually of very rapid growth, there being no case on record, to his knowledge, which lasted more then a year.

As far as the causation of the symptoms is concerned the doctor was inclined to accept Dr. Bremer's views. In his opinion, the cyst was responsible for the attacks of Jacksonian epilepsy. The cyst was probably due to the breaking down of a portion of the tumor, or to a hemorrhage; which cannot be decided now, especially as nothing has been said as to the character of the cyst contents. It probably reached down below the motor area, but it is impossible to decide definitely whether the epilepsy was caused by pressure upon the motor area itself, or to irritation of the conducting fibres. We should remember the peculiar property of cysts, of becoming alternately distended and partially depleted, and this would probably explain the paroxysms of the Jacksonian epilepsy.

Dr. Bremer, after examining the specimen, thought that it looked more like a fibro-sarcoma than a glioma. The specimen contains an abundance of fibrous tissue, spindle cells and some round cell proliferation.

As to the statement of Dr. Barck, in regard to the rapidity of the growth of gliomata, the doctor said, gliomata of the brain can not be compared with glioma of the retina. In the brain, the rate of growth is much lower than in the retina, continuing sometimes a number of years.

Dr. Bauduy, in closing the discussion, called attention to his statement, that this was a glioma with a

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sarcomatous tendency. He was not ready to pronounce upon a definite diagnosis.

He thought that Dr. Bremer had misunderstood the clinical history of the case. General convulsions did occur, and they are a common manifestation of cerebral tumor. Jacksonian epilepsy had been present for the last eighteen months before death. These attacks were not accompanied by loss of conciousness, and they were not tremors, as it had been distinctly stated that they were so violent as to make support of the patient imperative, lest he should fall to the ground. The epilepsy spread from the leg to the arm and then to the right leg.

In regard to the statement, that the left side of the brain is the intellectual side, we know that this is due to the fact that the right side is not as well nourished. But this man might have been left handed. Oftentimes, where the physiological function of the left side of the brain is interfered with, the right side takes on these functions.

Then as to the point in reference to muscular atrophy. There was no atrophy in this case; the patient was well nourished.

ABSTRACTS

SURGERY.

The Diagnosis and Treatment of Some Surgical Affections of the Intestines.—During the past twelve years Prof. Hofmokl, Vienna, has had sixty cases of intestinal surgery, exclusive of herniotomies, and he discusses the various intestinal affections in which surgical measures are called for: First, occlusions of inflammatory and non-inflammatory origin.

Among intestinal occlusions of slow development we have:

1. Simple coprostasis, which does not usually require operative interference. In the diagnosis of this condition an important point is that it is possible to make an impression in the coprostatic tumor with the finger. In one of the author's cases, however, this symptom was absent, owing to the hard character of the fecal masses and the diagnosis was not made until after operation.

2. Strictures resulting from catarrhal ulcers may give rise to occlusions of the gut. In a case of ileus the author was unable to discover the constricting ring until after the use of an enema of warm water. Resection was then performed.

3. Abnormal diverticula in the region of the bladder may, in rare instances, become causes of intestinal occlusion. These diverticula may be formed by the ligamentum umbilico-vesicale and be of acquired or congenital origin.

4. Abnormal bands resulting from parametritis or perimetritis often lead to incarceration, and the same is true of perityphlitis. In one case the author found a pseudo-membranous bond between the uterus and ligamentum latum which had produced incarceration.

5. Hofmokl reports also a case where the vermiform appendix in consequence of a perityphlitis had been displaced to the left side of the abdomen, had become fixed there, and caused incarceration of a loop of intestine.

6. Another group is formed by acquired omental hernia. In two cases of stab wounds of the abdomen with intestinal protrusion, the gut, after reposition, became incarcerated in the opening made in the omentum by the knife. The author, therefore, advises that in such cases we should open the abdomen and satisfy ourselves that the intestines are in their normal position.

7. Congenital valves of remarkable character may cause considerable disturbances. The author observed in a child of four years an extensive valve in the region of the sphincter anus tertius which had given rise to coprostasis.

8. A case of intussusception is also reported in which the intussusceptum was formed by a large, fibrous polypus.

9. Neoplasms, especially carcinomata, may produce occlusion in any portion of the large intestine.

10. Hofmokl has operated once for a tuberculous mass ensheathing the transverse colon.

As regards the diagnosis the author is not as pessimistic as some other surgeons. He states that there are certain landmarks which enable us to make a probable, if not a positive diagnosis. The seat of the stenosis can be determined in most cases. The local distension of the intestines, as well as the local tenderness usually points to the situation of the obstruction.

Of special importance in the diagnosis is the inspection of the stools. If the stenosis is far down, then the stools are thin and threadlike, if in the small intestine the feces collect in large masses and no correct diagnosis can be made from the form of the stools. The admixture of fragments of degenerated new-growths, or of blood, is also of diagnostic significance. The odor of the stools is also to be considered. In a case of movable tumor which had been diagnosed a floating kidney the attending physician ordered an enema, which was followed by intestinal hemorrage and evacuation of fragments of degenerated carcinoma. On operation a non-adherent cancerous mass was found in the cecum. The latter had a long mesentery which explained the mobility of the tumor. In another case the author found a displaced gall bladder filled with calculi, which had been regarded as a cancer of the cecum. Small carcinomata which produce circular stenosis are difficult to diagnose by external examination, while this is quite easy in the case of hard cancers after they have

reached a certain size. Carcinoma which disappear and reappear with the peristalsis usually belong to the ileum. Cancers of the sigmoid flexure are difficult to diagnose, especially when situated low down or adherent to the sacrum. In a case of ileus, where the abdomen was distended especially on the left side a diagnosis of volvulus of the sigmoid flexure was made, which was confirmed by operation. Besides there was found a cancer in this part, adherent to the sacrum. Inflammatory conditions in the region of the cecum in young individuals can be diagnosed with great probability.

The form of distention of the abdomen furnishes some valuable data. The nearer the seat of the stenosis to the stomach the less distended are the intestines and the more uniform the enlargements of the abdomen. The nearer it is situated to the large intestine the greater the tympanites. It is important that the patient should be examined as often as possible and at various stages of the occlusion, and if this is done a diagnosis is much easier arrived at than when the surgeon is called at a late period.

As regards the other symptoms, fever is of no significance, while importance should be attached to the pulse, general condition and character of the heart. If the pulse be thready, the heart action feeble, the prognosis is worse than when high fever exists.

With reference to the therapeutics, enteroclysis is a very valuable measure by means of which many occlusions can be removed. In some cases, however, Hofmokl has observed that by high irrigation more harm than good is done, especially in the later stages. As long as peristalsis can be induced irrigation may be successful, but when the intestine is paralyzed and peritonitis present, the large quantity of fluid introduced can be evacuated only by puncture. If, therefore, slight peristalsis exists and irrigation has been previously tried, the author recommends, as an ultimate resort, a procedure which he learned from Prof. Ducheck and which has given him good service, viz., enemata of *aqua laxativa*. Furthermore, the author employs irrigation with a mixture of glycerine and salt solution 2 per cent. Some coprostases are situated low down and must be removed by a spoon. Large enemata of oil, one and one-half litres, are also very serviceable.

Puncture of the abdomen for the evacution of gas is recommended only when the intestine is adherent, since there is danger of extravasation of feces.

If none of these means avail, coeliotomy or establishment of an artificial anus must be resorted to. In the case of vigorous patients Hofmokl prefers laparotomy, since it removes the entire trouble.

The discovery of the obstruction is often attended with great difficulties. Frequently it is necessary to examine the entire intestine. The reduction of prolapsed gut is often so difficult that it must be preceded by puncture. The following has proved serviceable: Just at the moment when the intestines are returned the chest is raised, by reason of which a much larger space is gained in the pelvis, especially if the latter has been elevated.—*Internat. Klin. Rundschau;* Milwaukee *Med. Journ*

MEDICINE.

The Treatment of Epistaxis.—The May number of the Glasgow *Medical Journal* contains a paper entitled "Notes and Observations on Certain Forms of Epistaxis," by Dr. Robert Fullerton, read at a meeting of the Glasgow Southern Medical Society. In regard to the treatment of bleeding from the nose, the author thinks that, in young and plethoric persons, also where there is any likelihood of an apoplectic seizure, some hesitation should be felt as to stopping the bleeding. A careful examination of the nasal cavities should be made in every case, if possible, especially if the hemorrhage has been profuse or recurrent. The causes may be local or constitutional, and in the treatment constitutional influences should not be lost sight of. It is important to remember that in most cases the bleeding point is situated anteriorly, so that the flow may easily be checked by plugging from the front. In most cases the hemorrhage may be controlled temporarily by the patient's grasping the anterior cartilaginous portion of the nose firmly. It should then be plugged from the front, preferably with a long strip of iodoform gauze, which is to be pushed carefully upward, backward, and downward with a probe or a sinus forceps, layer upon layer, until the cavity is thoroughly packed. If this is done thoroughly, the cases are very few in which anything further is required for the time being. The advantages of using the iodoform-gauze strip are that the parts remain aseptic for a considerable time, and that the continuous character of the packing permits of its easy removal. The plug should not remain in for more than forty-eight hours, and in withdrawing it the utmost care should be taken not to displace any clot that may have formed. As a rule, on removing the plug, the surface of the nasal cavity will be found fairly free from blood; but any blood that obscures the parts can be removed by spraying, or wiped off with cotton wool on a probe. After this has been done, an effort should be made to discover the bleeding point with the aid of a good light and with the nostril well dilated. Particular attention should be directed to a careful examination of the septum with a probe, to see if bleeding can anywhere be elicited. Any clot or suspicious mark should be examined in the same way, and temporary pressure applied to it if necessary as a preliminary to effecting a radical cure. For this purpose the author has used nitrate of silver and chromic acid; but, while each has acted satisfactorily for a time, neither has been permanent in its effect. On the other hand, the galvanic cautery has acted perfectly in every case. Before using this, it is desirable to apply a 5 or 10% solu-

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tion of cocaine to the spot to be touched. The cautery should be passed slowly down through the soft tissues at a red heat, and should be kept glowing until it is again clear of the parts. If this last point is not attended to, the tissue is apt to adhere to the cautery, so that on detachment of the clot bleeding takes place anew. If a galvanic cautery is not at hand, the end of a probe heated in a spirit lamp may be used, and the author thinks it would be more efficient than either chromic acid or nitrate of silver. In plugging, cotton may be used, with or without the addition of a styptic. Perchloride of iron is an effective but most unpleasant application. A 4% solution of antipyrine is said to act well, but the author thinks that styptics are unnecessary, provided pressure by means of plugging is carried out carefully. Where the hemorrhage is moderate, a 5% solution of cocaine, sprayed or sniffed, acts well and quickly. Where there is only slight capillary oozing, a preparation of hamamelis may be applied several times a day in the form of spraying. Under such circumstances also an ointment of menthol and vaseline, which the patient can sniff up, generally acts satisfactorily.

The Internal Use of Antiseptics Condemned.—Triwousse recently published in *Wratch;* (*Modern Medicine*) an article in which he takes a strong stand against internal antiseptic treatment, which he regards not only as useless, but as positively injurious in certain circumstances, particularly in cholera. "We have shown," said he, "that especially in relation to the treatment of cholera the principle of sterilizing the digestive tract and thereby rendering inoffensive the toxalbumens which accumulate within the abdomen, is an error. Before proceeding thus, we should ascertain whether the poison still exists in an active state. If it does not, we should cease to combat the cause of the disease. The physician being always called at the time when the disease is already established, there arrives a period when the treatment of the infection is probably no longer useful, for at a certain period in this disease the microbes become inoffensive, a sort of immunity being established. If this were not true, how could we comprehend the resistance of a weak patient to the microbes which have infected him when he was in full health?

"We are ignorant, it is true, at what moment this immunity begins. The only thing we are certain of, is that it exists."

Further, Triwousse recalls that certain microbes, those of cholera and of typhoid fever for example, lose, in the human body, a portion of their virulence, which they are able to re-acquire only by passing through water, air, soil, etc. Then at the time when we observe the disease, the microbes and other toxines are no longer dangerous. Disinfection is then useless; further, it may be dangerous for the following reason:

"Parallel with the noxious action of microbes is developed the salutary action of immunity. Some bacilli which produce the toxines, secrete at the same time the bacterio-toxine. The moment when we are able to come to the relief of the patient, he is already at the period of his disease when the formation of these bacterio-toxines begins. In killing the microbes which have now become salutary in their influence, we may also kill the patient. We should, instead, treat the patient, or rather come to his aid, by the production of immunity."

The Treatment of Ascites.—A discussion of this subject, a few months ago, in the *British Medical Journal*, brought out the following practical points respecting the proper treatment of this condition as the consensus of opinions of a number of eminent physicians. There are three objects to be sought:

1. To prevent the increase of connective tissue, and the consecutive atrophy.

2. To antagonize the tendency to anemia.

3. To relieve the abdominal and thoracic viscera from pressure.

1. The first of these objects is to be accomplished by avoiding alcohol and all stimulating foods, such as mustard, pepper, and other condiments. Salt should be taken in sparing quantities, and fresh meat should be avoided in consequence of its stimulating character and the imperfect intestinal asepsis, owing to the deficiency of the bile.

2. The anemia is to be combated by an abundance of nutritious, digestible food, and by the aid of such remedies as will aid digestion—particularly hydrochloric acid and preparations of iron.

3. Purgatives and diuretics should be avoided, as they are the most expensive method by which the ascitic fluid can be removed. One writer asserted that "purged to death" would be an appropriate record in many cases of ascites. Diuretics are equally inefficient with purgatives. The only rational method is tapping. Most authors recommend that tapping should be delayed as long as possible. Austin Flint, however, recommended repeated tapping, reporting ten cases of recovery.

Murchison, who formerly recommended delay, finally pronounced in favor of tapping as soon as the "abdomen is moderately distended by fluid."

Continuous drainage has not given satisfactory results, and is more likely to lead to infection than tapping done with aseptic precautions.

NOTES AND ITEMS

The Editor of "An American Text-Book of Practice."—In announcing the completion of "An American Text-Book of Practice," the publisher asserts that in this work over 500 pages are from the pen of Dr. William Pepper. This fact, from a purely

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mechanical standpoint in these days of enormous literary production, would not appear in itself to be matter for special comment, but when there is taken into account the Editor's busy life, it is a notable instance of the wonderful vitality and executive ability of an exceptionally gifted man.

Dr. Pepper, who is a native-born Philadelphian, is perhaps no less widely known as a medical practitioner than as Provost of the University of Pennsylvania, and since assuming the administration of this venerable institution its interest have been more rapidly advanced than during any equal period of history. The words of Governor Hoyt, addressed to Dr. Pepper at the time of his installation as Provost (1881), that "the events of this day will affect your own and the fortunes of the University of Pennsylvania," were singularly prophetic. An indefatigable worker he has conducted the affairs of the University with such remarkable tact that the various educational departments now aggregate thirty huge buildings and the institution commands an international reputation. But it is not alone as the chief administrative officer of the University that Dr. Pepper's influence is all-potent; he is connected with, and is especially active in various capacities in many learned societies.

Moreover, in addition to shaping and directing the general policy of the University, Dr. Pepper attends to a very large medical practice. He is recognized as the leading American authority on medical questions, his powers of diagnosis amounting almost to intuition. He was mainly instrumental in securing from the city of Philadelphia the gift of the site on which now stands the University Hospital, and he has always been an ardent supporter and a successful promoter of charitable works deserving public recognition.

The question naturally arises, How does Dr. Pepper meet the exactions of all these engagements? The answer is Simply by self-abnegation and by his mental adroitness, no opportunity being lost—whether it be in his office or in his carriage responding to a business, a professional, or a social call—in formulating the duties of any function requiring personal attention. As an Editor and writer, as Provost and practitioner, it may be inferred that the official demands on Dr. Pepper would preclude attention to the enjoyment of society; but in social as in public life he finds time for interchange of civilities with a wide circle of friends, by whom he is highly esteemed not only for the brilliancy of his literary attainments and his gentlemanly qualities, but also for his congeniality as a friend and a companion.

The Effort to Establish a National Bureau of Health says the Maryland *Medical Journal* seem to have settled down to a fight between the Marine Hospital and the New York Academy of Medicine. Dr. Wyman urgently opposes the formation of such a bureau on the ground that it is an additional expense and that the Marine Hospital is able to satisfy the requirements of such a service. There has always been a fear expressed that the Marine Hospital Service would object to this proposed bureau, and while all is tanquil and disease is at a distance, the National Bureau would probably be unnecessary, but in case of the ravages of cholera, yellow fever, small-pox and even typhoid fever, the Marine Hospital Service may find itself in need of help.

Theodor Billroth's Successor.—To bend the bow of Ulysses is proverbially a difficult undertaking, and to succeed a Billroth in the chair he adorned is an object of ambition to which few indeed legitimately aspire. Still, the duties of that chair have to be discharged, and the Vienna school has just taken the primary steps to fill it. At a meeting of its medical faculty three candidates were nominated for the post; *Primo loco*, Vincenz Czerny, Professor of Surgery in University of Heidelberg; *secundo loco*, Karl Gussenbauer, Professor of Surgical Pathology and Therapeutics in the University of Prague; and *tertio loco*, Johann Mikulicz, Professor of Surgery in the University of Breslau. There is, we believe, little doubt that the first name surgeon will be appointed.—*Lancet.*

A Board of Medical Officers, to consist of Major Joseph K. Corson, Surgeon, Major Valery Havard, Surgeon, and Major Edward B. Moseley, Surgeon, was appointed to meet at West Point, New York, June 1, 1894, or as soon thereafter as practicable, for the physical examination of the cadets of the graduating class at the U. S. Military Academy and such other cadets of the Academy and candidates for admission thereto as may be ordered before it.

The Annual Meeting of the American Medical Publishers' Association will be held at White Sulphur Springs, West Va., Friday and Saturday, August 3 and 4, 1894.

Professor W. W. Keen, of Jefferson Medical College, Philadelphia, has been appointed, by President Cleveland, as a member of the Board of Visitors at West Point Military Academy.

Provost of the University of Pennsylvania.—Mr. Charles C. Harrison, of Philadelphia, succeeds Mr. William Pepper as provost of the University of Pennsylvania.

℞ For Irritable Bladder.
Spt nitre ℥ii
Elix nitrous ℥iv
M. Sig—Dessertspoonful
four times a day

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Acute Poisoning with Therapeutic Doses of Creosote.—In the *Centralblatt fur innere Medicin* for May 5, Dr. Zawadzski reports a case in which a woman 42 years old, was ordered creosote in doses of six drops three times a day, in milk. After she had taken three doses symptoms of poisoning showed themselves, including those of high irritation of the gastro intestinal canal, anesthesia, and partial paralysis of the soft palate and of the vocal bands, persistent burning in the mucous membrane of the mouth and pharynx, albuminuria, signs of weakness of the heart, and especially the exhalation of the odor of creosote from the mouth. Death took place in the course of four days, and the author thinks it was owing to an idiosyncrasy that made the patient abnormally sensitive to creosote. He expresses the opinion that we should avoid using creosote pure or in strong solutions, and especially that creosote should not be ordered to be taken in milk, since it is insoluble in milk, and, when so prescribed, acts as if it were undiluted. Moreover, he thinks that not more than one or two drops at a dose should be ordered to begin with, and that this dose should be increased gradually.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)

The comparative method of study is, before all, the most trustworthy help towards the attainment of accurate knowledge, since by its aid a just appreciation of the value of facts may best be acquired. Accordingly, it merits employment whenever available, furnishing an efficient corrective of erroneous or disproportionate conceptions. It is valuable, also, inasmuch as it may afford clews to or enlighten us respecting important correlations; while its influence in checking and balancing our views and conclusions is uniformly beneficial. Acquaintance with the value of this method has led me to regard certain departments of medicine by its light, and among them the function of menstruation, in the elucidation of which it contributes important and suggestive information.

The illumination thrown by the comparative method upon certain biological problems ancillary to medicine is great; and the fervent, if not sanguine, hope is excited that not only many similar enlightenments be vouchsafed in respect of recondite pathological problems, but that through the pursuit of this instructive method, medicine, considered in its entirety one of the noblest studies, may, in process of time, be established upon foundations whence it may rise to a position not inferior to that accorded to other sciences.

The impression has long and widely prevailed that the menstrual function is an attribute peculiar to the human female. Whether this be erroneous or not will appear when inquiry is made into the manner in which the periodical activity of the reproductive organs is displayed or exercised in the females of the lower animals. Making due allowance for generic peculiarities, this function will be found to agree with the other of the animal economy in displaying harmonious subordination to the law of evolution. Inquired into on this basis, and in accordance with the comparative method, the evolution of osteo-menstruation is discovered to be orderly; and to correspond broadly with the evolution, anatomical and physiological, of the generative system of animals. In harmony with the universal result of biological research, the primitive indications of the function will be found to be but feebly marked. Gradually and progressively, however, the manifestations become more and more distinct, until ultimately the highest stage is attained in the human species. Thus traced step by step it will be found that from feeble, obscure beginnings in the lower creatures, the function emerges and develops until in the highest mammals it is unmistakably pronounced. It will also appear that after its establishment at puberty—an epoch marking the assumption of the capacity for reproduction and usually arriving only towards the time when the rate of growth is diminishing—its equilibrium is liable to fluctuation, and even disturbance, owing to the extreme sensitiveness of the reproductive system to vicissitudes of the environment, as Darwin and others have conclusively shown. It may be hoped that the laws governing this instability of equilibration will also be fully discovered, and in process of time admit of formulation so as to render them amenable to remedial modification. Pursued and investigated on such a basis, there is a prospect that the physiology of the function may be brought within the domain of science and cease to be a wonderment and mystery. It may also be hoped that the physiological laws governing it will furnish, not only a foundation for the establishment of a sound and intelligent system of therapeutics for correcting aberations and remedying deviations, but also a more reliable basis than at present exists for pathological knowledge. Mr. Herbert Spencer well says (Data of Ethics, p. 227): "Pathological science depends for its advances on previous advances made by physiological science. The very conception of disordered action implies a precon-

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ception of well ordered action. Before it can be decided that the heart is beating faster or slower than it should, its healthy rate of beating must be heard; before the pulse can be recognized as too weak or too strong its proper strength must be known; and so on throughout. Even the rudest and most empirical ideas of diseases presuppose ideas of the healthy states from which they are deviations; and obviously the diagnosis of diseases can become scientific only as fast as there arises scientific knowledge of organic actions that are undiseased." The gain accruing from accurate physiological knowledge may thus be great and ever growing.

So conspicuous a manifestation of sexual aptitude as a menstrual flux, whether sanguine or not, is hardly to be looked for in the female classes below the mammalian, with which the study of the evolution of the catamenial function might appropriately commence, for "in the classes of birds, fishes and oviparous reptiles there is no uterus" (Laycock), but there are generative canals out of which in the process of evolution the uterus arises, just as does the bladder out of the renal excretory canals, being developed by the aggregation of muscular fibers and differentiation of epithelial elements at certain parts (like the stomach with its powerful muscular and glandular apparatus in the higher mammals or the gizzard in the fowl); and it may be useful to trace their evolution, for even in certain non-mammalian creatures the excitement attending the active exercise of the reproductive function is occasionally displayed by an increased vascularity and pigmentation of certain structures, particularly about the genital orifices, which exhibit a kind of efflorescence at the periods of sexual excitement for instance, according to Pouchet, "Guersant says that at the epoch of the oviposit (in fishes) the orifice of their sexual apparatus swells, and is clothed with a red tint. Savants, who, like Spangenberg, are occupied in studying the genital organs of birds have recognized that they experience also at the time of the oviposit a manifest excitement." I am informed that the genitals of the parrot and pigeon tribes show this excitement. In other creatures, *e. g.*, amphibia, the orifices of the generative canals opening into the cloaca are generally increased in size in the breeding season. Reptiles also show increase in cutaneous secretions, especially of the odorous variety, in association with sexual activity. Laycock observes: "Many tortoises smell of musk, which probably proceeds from follicles connected with the cloaca. Several lizards, among others the iguana, have a row of small follicles with round orifices at the inner side of the thigh which secrete, especially at the coupling season, an odorous fatty liquid;" and Mr. Darwin (Descent of Man, p. 352) says: "During the breeding season the anal scent glands of snakes are in active function, and so it is with the same glands in lizards." As we ascend in the scale of creation we shall find that genital apertures of the higher creatures present analagous phenomena, culminating in the highest even in an issue of blood.

Attention may be here directed, *en passant*, to the general relations of pigmentation to reproduction, which are striking, and as Mr. Darwin has shown, are in birds remarkable. He says (Descent of Man, p. 229), "many birds acquire bright colors and other decorations in the breeding season alone;" and (p. 496) "certain ornamental appendages become enlarged, turgid and brightly colored during the act of courtship." Even in insects sexual pigmentation is often highly conspicuous; and Mr. Darwin (Ibid, p. 265) says: "The sedentary annilids become duller-colored according to M. Quartrifages after the period of reproduction; and this I presume may be attributed to their less vigorous condition at that time." We may therefore derive instruction from the observation of the suggestive phenomena accompanying the active exercise of the reproductive functions even in the lowest creatures.

Before the difference of sexes arises both sexual elements (sperm and germ) exist and are carried in the body of a single individual, though curiously enough the congress of two separate individuals is in some cases necessary for fertilization, *e. g.*, in creatures which are not stationary.

Gegenbaur (Elem. Comp. Anat., p. 54) says: "All those animals which unite in themselves both kinds of productive organs are known as hermophrodites. A separation of sexes is apparently foreshadowed in various forms by the alternating activity of the organs, at the one time the egg-forming and at another time the sperm-forming organ increasing its functions. Hermophroditism is the precursor of sexual differentiation. * * * A separation of the sexes affects the whole of the organism for it produces a series of changes in each sex which affect organs which had primitively little to do with the sexual function;" and Darwin remarks: "It has now been ascertained that at a very early embryonic period both sexes presses true male and female glands."

Before generative ducts arise the generative products escape from the bodies of the lowest creatures by a coelomic orifice, and occasionally even in the primitive stage some excitement is displayed around the aperture; but in the stage immediately above, when ducts begin to appear, imperfect though they be, we find that there is a remarkable constancy in the relation they bear to the renal excretory canals; that in fact the generative products, having no proper canals of their own, make use of those of the renal system, and there often display pigmentation at their orifices.

According to Gegenbaur (Elem. Comp. Anat., p. 609), "the germ glands are developed from the structures known as genital ridges. Sometimes more and sometimes less of this ridge is converted into the ovary or testis." These genital ridges are found in the abdominal cavity, the epithelial investment of which "retains its primitive character along a track which corresponds to the rudiment of the primitive kidney longer than it does in other regions, and this epithelial layer may be distinguished as the germinal epithelium."

[TO BE CONTINUED.]

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ORIGINAL ARTICLES

Ventilation.

BY W. H. MAYFIELD, M.D., ST. LOUIS.

Read before the St. Louis Medical Society, May 26, 1894.

Of the necessity of ample and efficient ventilation there can be no doubt in the mind of the general public. No one can sit for a number of hours in a crowded hall, provided with no other means of moving the vitiated air and replacing it by fresh, pure air than that provided by doors and windows, without being seriously impressed with the necessity of a more complete and satisfactory system of ventilation. Only a careful consideration of the requirements of the human body will enable the designer to understandingly and successfully provide the means for healthful and pleasurable ventilation. The evil effects of lack of ventilation are made only too manifest by such facts as that death rates have been reduced by the introduction of efficient ventilating systems in children's hospitals from fifty to five per cent; in army hospitals from twenty three to six; in prisons eighty to eight; in surgical wards of general hospitals, from forty four to thirteen per cent; among horses in army stables, from nineteen to one and one-half; and in stables during epidemics, the rate has been reduced eighty per cent.

Air.

Air being the prime supporter of life, health, even life itself, is dependent upon the composition of the atmosphere. Although simply a mechanical mixture, yet certain gases of which it is composed exist in almost unalterable proportions in the normal atmosphere. Oxygen and nitrogen, the principal constituents, are present in very nearly the proportion of one part of oxygen to four parts of nitrogen. Carbonic acid, the result of all combustion, either slow or rapid, exists in the very small proportions of three to four parts in ten thousand of air, while the aqueous vapor varies greatly with the temperature and exposure to water. In addition, there is generally present in air, in variable but exceedingly small quantities, ammonia, sulphuretted hydrogen, sulphurous acid gas, floating organic and inorganic matter and local impurities.

Humidity.

The condition of the air, relatively to the amount of vapor of water held in suspension in it, is expressed by the term humidity. By actual humidity is implied the actual weight of water vapor present in a given unit volume of air, while the relative humidity expresses the relation between the actual vapor present in the air and that which it would contain if saturated. Obviously, the air is saturated when it will hold no more. The actual humidity varies excessively with the temperature, so it will be seen that a statement of the relative humidity gives no indication of the exact amount of vapor present, unless the moisture-carrying capacity of the air at the given temperature be known.

Carbonic Acid.

Carbonic acid is not in itself a poisonous gas, and, contrary to general impressions, its presence in large quantities—as in soda water manufactories—is neither disagreeable nor harmful; but as a product of respiration, particularly in connection with an excess of moisture, its presence is always an index of the actual contamination of the air by other impurities. The presence of carbonic acid gas being easily determined by experiment, the fixing of a certain standard limit of amount in which it may be allowed in ventilated rooms also limits the permissible vitiation of the atmosphere by other impurities.

Heating.

The normal internal temperature of the human body is very nearly 100°, independent of the temperature of the surrounding atmosphere. By respiration the continuous process of slow combustion is kept up—the oxygen of the air uniting with the carbon of the blood passing through the lungs, to form carbonic acid gas. As in any case of combustion, over-heating takes place, unless provision is made for the distribution of the heat so generated, so the body is kept at its normal temperature only by the abstraction of heat from it. The actual heating of the body is not the ultimate object of heating; but, in reality, provision is made for the abstraction of the heat generated by the vital functions without making too great a demand upon the physical endurance of the individual.

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With the above facts in view, Messrs. A. D. Brown, L. B. Ely and myself went East in search of the best method of heating and ventilating, prior to the erection of the Missouri Baptist Sanitarium, visiting Boston, Philadelphia and New York. Subsequently, the architect, Mr. H. E. Roach, went to Boston. After all returned and all the different methods had been examined, the Sturtevant system was adopted in preference to all others.

This system, as introduced into the Baptist Sanitarium at St. Louis, Mo., comprises a volume fan, a steam engine and steam heater, together with the system of distribution hot air ducts, with necessary registers, and a separate system of exhaust vent ducts and their registers. The apparatus proper is placed in the basement. The heater, which is especially constructed in a series of separate radiators with the pipes so arranged as to give greatest efficiency, is enclosed in a fire-proof steel-plate case, in connection with the inlet to the fan. The fan has a capacity, when run at its maximum speed, to deliver 60,000 cubic feet of air per minute. The fan itself is especially constructed of steel-plate and enclosed in a large case eight feet high.

The engine is of the Sturtevant type, built especially for this class of work, running noiselessly and belted directly to the fan.

The air is drawn through the basement windows into the air chamber, thence passes through the heater, being almost instantly heated to the necessary temperature, and then passes to the fan and is forced through a system of horizontal distributing ducts in the basement. These ducts are constructed of galvanized iron.

In the partitions are placed a multitude of heating flues, each flue supplying only a single room, so that each room is rendered entirely independent of all others in the building and may be provided with the required amount of pure, fresh, warm air. Very large heating registers are placed in the corridors.

One of the special advantages of the Sturtevant system of heating and ventilating is the adaptability to all classes of buildings. In this building, for instance, in order to prevent the possibility of odors from the bath rooms, wash rooms or water closets from escaping into the remainder of the building, the special device is adopted of placing in each of these rooms a direct steam radiator and furnishing no direct supply of air. In place of it, however, each one of these rooms is provided with an extra large ventilating register and flue with the result that the air in the rest of the building being under a slight pressure, is forced into these rooms, ventilating them, preventing the escape of all odors, and causing the escape of all air through the large ventilating registers.

Each room in the building is also provided with separate ventilating registers and flues. The result is that the air, being under a slight pressure and being forced into all parts of the building, maintains within the entire structure a slight pressure in excess of that out of doors. It thereby prevents an ingress of air at the windows and consequently provides a positive ventilation, as it compels the entering air to escape through the natural opening provided in the vent flue. These vent flues are all collected in the attic into one main and thence the air is discharged out of doors.

About eight tons of galvanized iron was required to construct the necessary hot air vent flues and ducts in this building.

One special advantage of this system consists in the concentration of all the heating surface in a single heater in the basement of the building. Of course, the few direct radiators already described are the only exceptions. As a result, there is removed all possibility of danger from leakage, fire or freezing, which is incident to any system of direct steam heating where the coils are distributed all over the building. Further, it makes it possible for the janitor to control the heating of the entire building at once, by regulation of the apparatus in the basement, while it gives each individual occupant of the room the chance to control the temperature by operating the registers.

The plenum condition put on the air causes all leakage to be upward and offsets the action of strong winds, provides positive ventilation at all times, and results in providing an air supply per occupant frequently running up to 150 and 200 cubic feet of air per minute.

This same system, varied to suit the circumstances, has been introduced into a large number of similar structures throughout the country.

Woman in Medicine.

BY C. H. HUGHES, M D, ST. LOUIS.

Read before the St. Louis Medical Society, May 26, 1894.

[A reply to the paper of F. W. Abeken, M.D., read before the Society, May 12, 1894.]

I had hoped that the lady member of this Society, or some one who advocated the admission of the lady member to fellowship, would have replied to Dr. Abeken's violent and rather ungallant attack on "Woman in Medicine," made at a previous meeting. But for this expectation, and the manifest desire of the Society to see the lengthy programme of that meeting, with its usual pickled ovaries ruled as perishable by the chair, rushed through, and the evident impatience of the Society for more ovaries, I should not have sat like Saul of Tarsus, consenting to this unrighteous stoning of the sex to professional death.

I never voted for the admission of women into this Society. It is sometimes indelicate and embarrassing to have a woman always present in medical society discussions; but I believe in woman's right to enter and labor in the profession, nay, that it is her duty to assume certain of its duties, as far more befitting woman than man.

Woman's equality or inequality of intellect, compared

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with that of man, is not a question to be considered. The question is rather one of fitness. Woman has intellect enough and courage enough, as shown in her history, to fittingly fill and adorn more places in the world's work than she now occupies. Her sentiment, her sympathy, her delicacy and tact are superior to man's, and her attributes of mind are not always comparable to his because they are different.

If intellectual power over that of woman was an absolute essential to one engaging in the practice of medicine there would be but few masculine physicians

As to the propriety of woman attempting all departments of medicine, there may be a question, but as to her capacity if she should will it, I think there is no question. Many of the arts in which women excel require skill of the highest order, and it would be as logical to say man is not as capable as woman because he is not her equal in the arts in which she is especially skilled as to pronounce her unfit for a vocation in which she has not yet been thoroughly tried. Woman's sense of duty and love towards her offspring, her physical and periodical physiological disabilities have kept her out of the dangerous paths of war, and the demands of the chase and hunt, but not her lack of bravery or capacity for acquiring skill.

As mankind has emerged from the savage state, man's consideration for woman's physical embarrassments, her willingness and preference to prepare food for both while he went in pursuit of it, and the growing demand on man, have compelled him to recognize her as his helpmate, and to have consideration for her superior fitness for certain duties necessary to the common weal of both.

Woman's physical embarrassment and inferiority in contests of strength accounts for her appearance of subordination to man in the savage state. If her "big injun" husband refused to carry the papoose, her instinctive love of her offspring compelled her to submit, and her instinctive mother love compelled her to nourish it; but the ingenious devices employed by woman from the savage state to that of our highest civilization, to wrest from man, her physical lord and master, co-equal comforts for herself and offspring, prove anything but intellectual inferiority. Physically at the mercy of man's superior strength, and handicapped by physiological embarrassments from which Nature has exempted man, she, nevertheless, has secured and maintained her social equality with man, and even secured his acquiescence in her supremacy in certain directions, by tact and moral suasion, which come of her mental endowments. What force is there in the argument that because the area of woman's cerebrum is a little smaller than man's, which grows out of the manner in which occupations are divided, that woman is therefore not entitled to equal rights with man to choose her occupation. Some investigators have maintained that woman's cerebrum is larger in proportion to her frame than man's is to his frame, and that the cerebellum of woman is not only relatively, but actually, larger than the cerebrum. Even Sir James Crichton Brown, who claims from his investigations that the brains of women are relatively smaller than those of man and essentially different in structure, has shown that the vertebral arteries are larger in women than they are in men in proportion to the carotids, and we may concede the claim of Debiere, that her brain is four per cent smaller than that of man considering relative height and weight. Yet the cerebellum, in which she excels, makes character, and character makes the man or woman. The dominating, and even trophic, influence of the cerebellum over the neuro muscular system, has been lately shown by Luciani (*Alienist and Neurologist*, No. 13, p. 454, 1891, et seq.); and he has revived the doctrine of the great Turin anatomist, Luigi Rolando, who, recognizing a certain analogy between the voltaic pile and the lamellated structure of the cerebellum, considered it as "the motor of the animal machine." And in this connection it will be remembered that Fluorens, who succeeded Rolando in securing the attention of the physiological world, regarded it as the regulator of the more complex movements; and Magendie considered it as an organ of equilibration—I suppose that accounts for the power of woman to keep her male companion in the straight path so much better than he does for himself, why she is a balance wheel to so many of us, and why we yield so gracefully to her sway.

Woman has her peculiarities, mental, moral and physical, and we men are all thankful for her peculiarities; and while some of her peculiarities make comparisons odious and impossible, they are not marks of inferiority. She is not therefore inferior. Some of her qualities are possibly superior to those of man.

The manner in which through the centuries the faculties of woman and man have been exercised, the differentiation of duties and the specialization of occupations have made difference of skill markedly apparent and comparisons impossible. The duties of the office and the household are both difficult and intricate each to the other sex, and can not well be compared. The culinary art and the counting-house have both their mysteries and respective excellencies growing out of skilled management. Woman plays her part well wherever she has chosen to be cast, whether on the stage of the theater, or in the drama of life.

If we appeal to the battle fields of life we will find among its heroes the Bradiceas, the Joan d'Arcs, and Charlotte Codays; among its statesmen the Madame de Staels and Maintenons; among its philanthropists the Florence Nightingales and Dorothea Dixs; among its physicians the Mary Jacobis, among accoucheurs the greatest authority of her day in France.

But why attempt to enumerate the heroes of the sex noted in historic page, whose number, far out of all proportion to their public opportunity for fame and great duty, is transcended by a multitude, which no man can number, of the silent heroines of the home, where only living is life, and the soul in this world is happy where the characters of the good and the great,

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and the brains of statesmen, scientists, poets and heroes are builded and formed for the weal of the world under her plastic, gentle hand and skillful ministrations—she, whose heart has never wearied and whose hand has never palsied so long as the brain has held its physiological sway, in well-doing works of good for man. While man has striven for fame and glory under the stimulus of ambition, woman has been content in the silent sanctity of home, to train man and woman for great and noble deeds, to mold his character by the pursuasive methods and enduring, developing influences of the nursery and the later influences of the home, where men's characters aremade by means often forgotten in after life, and minds are molded in models that afterwards mark great epochs in the history of mankind. Truly, it was no false promise without fruition that she was made as a helpmate for man.

There is an organic and physiological weakness in woman that makes successful single-handed physical combat with man often a physical impossibility. But this weakness is her greatest moral strength with man. It has led one of the noblest of our kind to say: "He that should lay hand upon a woman save in kindness is a wretch whom it were base flattery to call a coward." That other poet, if I may so call him, who sarcastically sang of woman

> "In our hour of care,
> Uncertain, coy and hard to please,"

knew nothing of the real nature of the sex. If he had, he could not have made this ungenerous fling, whose justification, if any, could only be found in examples of the hysterical diathesis or in the psychopathically unstable. But even this poet is compelled to say of woman,

> "When pain and anguish wring the brow,
> A ministering angel thou."

He believed in women doctors, probably of the heart's ease and mind-healing kind.

Dr. Abeken's appeal to the habits of savage life and the lower animal kingdom for analogical proofs is *mal appropos*; but if it were germane to the subject, his reference to polyandry was unfortunate, for polyandry proves the mastery of woman over man, if it proves anything at all, despite his physical advantages, far more than polyandry proves the superiority of man over woman.

But any natural history argument that might be adduced to prove woman's unfitness for equality with man in most of the avocations of life, is overthrown by the one all-sufficient reference to the queen and the dominion she exerts over, and the homage she receives from her tribe, as well as her usefulness and fecundity. Nature has made her the life of the eminent species. A similar argument might be drawn from the life and characteristics of the queen bee. So I say in answer to the ungallant sluggard of the sex: "Go to the ant, thou slug gard! Consider her ways and be wise."

My experience with the sex is that they are fully able to take care of themselves in any contest but a fist fight; and the amazons and Mollie Starks of history remind us that even in battle woman's prowess is not to be despised. There is really no good anatomical reason why women should not make athletes as well as men, under proper physical training. What she may lack in shoulder she makes up in pelvic base. She would be developed into an athlete or gymnast of a different kind perhaps, but something just as good, just as she is developing mentally, *parri passu*, with her mate. Woman was intended to be a match, and help, and mate for man. She is fast learning the want of her subordination, and with this knowledge fully acquired, she will secure her right to every means of maintenance she is capable of employing, and to every position she may competently and properly fill. She is as well fitted, under proper training, to prescribe for, as she is to treat the sick, especially in all the ills peculiar to her sex and her offspring, and she will constantly in the coming years checkmate man in every attempt to deny her this privilege, but whether she will choose to exercise it alone or in its entirely is another question. I think not.

Woman likes to have men around in many of her undertakings. She was not satisfied to eat the apple in the garden all alone, but when she thought she had found something good she called Adam to share it with her; and, though she got him into trouble, he stood by her, put on his clothes, shared her shame and misfortune, went out with her and became her consultant ever after, just as he will continue to do when women get numerously into the profession. They will do most of the practice and we will stand by them in the day of their trouble and be their faithful loving consultants. There is no use in opposing this movement. The women have a right to be doctors, and they have the ability, if they choose to exercise it in this direction. They possess the diplomacy, if not the physical power, to carry their point, and they will carry it wherever they may choose to exercise it.

> When a woman will, she will;
> You may depend on 't.
> And when she won't, she won't;
> And that's the end on 't.

Gentlemen, there is no use in trying to argue woman out of her rights; she has us in the argument. If she wants to practice medicine, she will do it; and if she wants to, she will suffer at the polls.

Sterility.

BY C. D PALMER, M.D., CINCINNATI.

Reported to the Cincinnati Obstetrical Society.

I only bring the subject of sterility up to cause a little discussion in reference to the condition to which this case pertains.

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I do not think I exaggerate when I state that there is no more unsatisfactory condition to diagnose or to treat than sterility. It is sometimes extremely difficult to determine exactly what is the cause of female sterility, when you are perfectly assured the fault does not lie on the male side of the house, by an interrogation of the male, and perhaps by a microscopical examination of his spermatic fluid. And, having determined the cause, it is not by any means always easy to rectify it.

I do not, perhaps, go far out of the way, when I state that gonorrhea is one of the most frequent—even the most frequent—causes of sterility in the female. It exists often when not expected. But, aside from gonorrhea, perhaps the most common cause of sterility is a malformation of the uterus. The organ is not constructed correctly in size and in shape at the second period of its development, which, we all know, starts about the period of puberty, and ought to be completed by the age of twenty. Often the uterus is too small in size, or there is a cervix which is elongated, and associated with it there is the pin hole os externum; and oftentimes there is anteflexion. I am disposed to think that in many of these cases not only is the uterus too short, but it is not wide enough from side to side, as well as not thick enough from the front to the rear. We know quite often the cervix is of natural length, but the whole length of the uterus is below two inches. The body of the uterus may be an inch or less, and yet the cervix is elongated. I once had a most remarkable case of this kind, which I reported to this society years ago. I never saw a cervix so long as in this case. It extended from its natural position down to the vulva, being about three inches in length, and yet the body of the uterus was in natural position and condition. Of course, the woman was sterile. Years ago the treatment of the conoid cervix and pin-hole os externum was to incise it. The procedure was sometimes successful, very frequently not successful, and sometimes attended with a fatal issue. This is not now done much, and if done is not apt to be followed by a fatal issue, because antiseptic precautions are taken which were neglected then. Then followed the use of tents, but I think these have pretty well gone out of use. Then came the use of dilatation by means of the metallic dilator, and since we have had dilatation by means of galvanism. I have had several cases in the last ten years in which fertility has followed the use of galvanism. In all cases there was more or less of the conoid cervix and the pin-hole os externum.

The case to which I particularly refer was one sent me from one to two years ago. She had no leucorrhea, and was in good general health. The prospects seemed good that she might be cured of her sterility. I then commenced the dilatation of the os externum and the cervical canal by means of galvanism. I passed one electrode through the cervical canal and the other I placed over the abdomen. The current was applied for about fifteen minutes twice a week, sometimes once a week, for several months, stopping occasionally to observe results. After a married sterile life of seven to eight years she is now pregnant, in her eighth month.

Similar results I have seen follow this treatment in other cases. Nothing has been done in these cases except what I referred to. It is a well known fact that the positive pole applied within the uterine canal has one effect and the negative pole has another effect.

The positive pole is a hemostatic, and contracts the cervical canal. If you want to induce the menstrual flow or expand the cervical canal, use the negative pole. I am disposed to think this is one of the best methods of treatment in these cases, because it is comparatively painless, because it is comparatively safe, and because it tends to lead to a degree of permanency of result, which is not otherwise attained. He who uses the other methods mentioned will find that the cervical canal soon will again contract down, and be as bad as formerly (See discussion, page 483).

The Ophthalmoscope in Meningitis.—As the deeper structures of the eye have a direct communication with the arachnoid space of the brain and spinal cord, through the intravaginal space, it is evident that a systematic examination of the fundus of the eye with the ophthalmoscope will often reveal the condition of the meninges and indicate the extent to which the nerves are involved. In clinically studying forty cases of cerebro-spinal meningitis, with special reference to the derangement of the eye, Dr. R. L. Randolph (*Johns Hopkins Hospital Bulletin*) has examined thirty-five patients with the ophthalmoscope, and found the fundus of the eye normal in only seven cases, the optic disc usually being congested, with the retinal veins distended and remarkably tortuous. In only three of the seven cases was the entire eye in a normal condition, and in these three the patients recovered. Of the four fatal cases with normal fundus, in one the patient had divergent strabismus and dilated pupils, another patient had marked nystagmus, another had greatly dilated pupils, and was one examined early in the disease. Many epidemics of cerebro-spinal meningitis have been noticed to have one or more eye symptoms in common, the most frequent being conjunctivitis and changes in the pupils. A special type of eye affection, however, is apt to be peculiar to every extensive epidemic. A systematic examination of the eyes with the opthalmoscope will be useful in all suspected cases. The mere existence of good vision does not mean a sound optic nerve or retina, for a choked disc is often found where the visual disturbances are very slight; and frequently, when other eye symptoms are absent and the general symptoms are misleading, changes in the fundus of the eye may be found which indicate the purely cerebral disturbance. In cerebro-spinal meningitis the existence of eye symptoms, especially where the fundus is involved, indicates a grave prognosis.—*New. York Med. Journal.*

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EDITORIALS

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Members of the profession who send us information of matters of general interest to our readers will be considered as doing them and us a favor, and we shall take pleasure in inserting the substance of such communications.

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Ceterum Censeo.

As the old Roman concluded every speech that he made in the Senate with the admonition to destroy Carthage, so the REVIEW deems it its duty to repeat again and again the advice to the St. Louis Medical Society: Keep out the reporters!

A Tragical Case of Non-Appreciation.

During the last week we have carefully scanned the columns of the daily press for news from the place of meeting of the American Medical Association. Whereas in former years there used to be whole columns with flaming headlines devoted to the promulgation of the principal events of the Society's meetings, laying special emphasis on the presence of the great men that were there and their doings, there has been, we are sorry to say, a lamentable dearth of news from this year's meeting-place. This was ominous.

* * *

We have of late been somewhat spoiled by the press, by the flattery and prominence which it has bestowed on those eminent representatives of the St. Louis medical profession that have been in the habit of visiting the state, bi-state, tri-state and national conventions. The patriotic eye of the average St. Louis physician used to be gratified at the sight of these familiar names (appearing in extra-large print) of the medical paragons hailing from our city gracing those meetings by their presence and enhancing by their labors the renown of this place as a center of medical learning.

Times and things seem to have changed of late.

* * *

A change for the worse commenced at the meeting of the Missouri State Medical Association, held at Lebanon, in the past month. In spite of the noble efforts of a small, but well organized band of St. Louis doctors of heroic disposition, reinforced by an equally energetic delegation sent by Kansas City, all of them working harmoniously for a vote of the Missouri State Society in favor of a loftier, more generous, humane and progressive code of ethics, respectively a change of the same as it exists now, that obdurate and ultra-conservative body was unwilling to listen to these large-hearted reformers. Some perfidious member remarked after the meeting that this "crowd" was sent home with all their tail-feathers gone. This was undignified and unjust.

* * *

Whatever we may think personally of the chief promoter of the new and relaxing feature of the Code who made such a gallant fight together with his confreres at Lebanon, we had hoped, from higher local patriotic motives that his name would head the list of the officers of the American Medical Association for this year. We are disappointed. St. Louis is indignant. A man who has always stood in the front rank for the elevation of the profession, who has given to the world the all-revolutionizing method of feeding the female organism by nutrient vaginal injections, who has gathered basketfuls of laurels of medical immortality by his untiring devotion to the study of proprietary preparations of true merit, such a man would certainly have been an ornament to the presidential chair of the American Medical Association. While we are aggrieved we are not despondent, "genuine greatness will eventually find its proper level."

The Excretion of Nitrogen and Chlorides in Carcinomatous Disease.

Many investigations have been made within recent years in order to establish the cause of carcinoma and while most pathologists seem to suspect that the cause of these tumors is a micro-organism the latter has not yet been demonstrated. The difficulties that may be in the way of proving any micro-organism that is found in a pathological growth to be the cause of the disease, are so great that it is but natural to expect comparatively slow progress in determining the etiology of carcinomata as well as other tumors. The investigations of establishing the cause of cancer, which, so far, have not been crowned by any positive results, have, however, stimulated thought and original research in similar directions.

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The process of metabolism in carcinomatous patients has of late received attention at the hands of some authors, among them Jacoby, Vogel and Rommelaere, who came to the conclusion that in carcinoma the excretion of nitrogen is diminished. Klemperer, however, had exactly opposite results, finding the excretion of nitrogen increased. Mueller, who has made a great many exact experiments for the purpose of determining the diversity of results, verifies the results of Klemperer, accusing the other authors of having overlooked some essential factors in their investigations, namely, the consideration of the amount of nitrogenous food, the presence or absence of fever and edema. Further inquiry into the subject will be necessary in order to determine this question.

Another series of researches had for their object the determination of the relative quantity of chlorides excreted by the kidneys and there appears to be a unanimity of opinion that chlorides are always decreased in carcinomatous patients. The decrease in the excretion of these salts is probably due to the ulcerative process and to the wasting of the patient's tissues.

Of how much value these researches will be in practical medicine is, of course, at the present time impossible to say, but there can be no doubt that the determination of similar facts as these is an essential factor in the study of any pathological process, and helps to form the building material for the completion of the immense structure of which the future science of medicine will consist.

Pneumonia of the Aged.

When pneumonia attacks robust and well preserved old people it runs a similar course to that observed in earlier years and resembles the sthenic type of the disease. This form of pneumonia, however, is not near so frequent in the aged as another, an insidious form of the disease which attacks the debilitated and in which the usual symptoms of pneumonia are absent or masked. The experience with this form of pneumonia is almost limited to hospitals or institutions for the aged. An autopsy often reveals advanced pneumonia that had not been diagnosed during life, because the physical signs are not readily interpreted, partly on account of the apathy and loss of sensibility of the patient and the fact that the attention is confined to another ailment. Crepitation is often absent. Moreover senile changes may produce areas of dullness in the chest of the aged and considerably modify the phenomena observed by auscultation and percussion.

This form of pneumonia has been called pneumonia *of* the aged in contradistinction to pneumonia *in* the aged, which occurs in the robust.

There is but little literature upon the subject of pneumonia *of* the aged. In 1887, Dr. J. H. Pryor, of Buffalo, published quite a complete clinical study of this affection and recently the same author read an excellent paper upon this subject before the Medical Society of the State of New York, published in the New York *Medical Journal*, in which he says:

"The disease is peculiar to the old and infirm, latent in its development, obscure in its manifestations, and erratic in its course. The familiar symptoms of pneumonia are absent or subdued, owing to mental and physical decline and debility and associated apathy of function and loss of sensibility and vigor. The constitutional symptoms are usually so slight as to cause no comment or complaint, and even when present early in the affection they are rarely sufficiently distinctive in character for one to decide whether they are due to grave disease or those ill defined and transitory ailments of feeble old age. The attention is not attracted or the diagnosis most difficult, and consequently the disease is frequently unperceived and death assigned to other causes.

"We are accustomed to classic descriptions of the indications of morbid conditions in the average human being of adult life, and perhaps too little stress is laid upon the influence of senility and its accompanying changes in structure and function. In debilitated old age the symptoms are less pronounced, and the value and character of physical signs often lose their significance. The inquiry must be directed, therefore, to the evidence of disease as modified by these changes, and their value estimated many times by another standard of health. Pneumonia of the aged is atypical when compared with the description in the text books. The upper lobe is more often affected than in the middle-aged adult, and the disease more inclined to extend downward. In the stage of congestion the affected portion crepitates less, and the lung does not sink, as a rule, in water. The exudate is more fluid, and it is sometimes difficult to decide whether the lung is simply congested or beginning consolidation is present. Sometimes, owing to extreme refraction, the lung when hepatized does not sink to the bottom of the vessel. The left lung is involved nearly if not quite as often as the right.

"The pneumonia is more often double, and edema is much more common. Tubercular pneumonia is more common than is generally believed, and there is a similarity in the clinical features. Lobar pneumonia, due to mixed infection, often follows tubercular infiltration in the aged. The clinical history is marked by the absence of the usual symptoms, or their obscurity. There are cases where the patient does not betray the slightest indication of his condition. He may walk about as usual, partake of his meals, and suddenly die without any complaint or reference to illness. As a rule the symptoms are indefinite, and much care is required for their detection. Any disturbance does not cause so much uneasiness as in the middle aged, and subjective symptoms are not mentioned. The premonitory symptoms rarely attract any attention, and the invasion of the disease is often unrecognized, because the symptoms are vague and not of a nature to direct attention to the

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chest. At times, however, the onset is pronounced, and may be accompanied by delirium and great prostration. The initial chill is rarely well marked and is sometimes absent. The most constant and reliable symptom at the outset is the elevation of temperature, usually ranging from 102° to 103°. The temperature should be taken in the rectum, as the axillary and buccal temperatures show inaccuracies and fluctuations in the aged. Later the temperature may reach 104° to 105°, or even higher. The pulse, owing to the frequency of arterial changes, is unreliable; acceleration is the cause of suspicion, but trustworthy information can best be obtained by cardiac auscultation. The respirations are not relatively increased, as in adults. Sometimes they are of a puffing or panting character. Dyspnea and catching respiration is not particularly noticeable unless the apex is affected. The respirations rarely pass twenty-five or thirty per minute. Any effort in breathing, combined with raising of the shoulder, should lead to an examination. Cough may be slight or wanting. The cough and dyspnea of chronic bronchitis or asthma sometimes subside during an attack of pneumonia. The characteristic sputum is rarely present. It is oftenest thin, lacking in cell elements, and, when due to co-existing edema, watery. My experience is in accord with the authorities who state that the expectoration never becomes purulent in the stage of resolution. The absence of pleurisy as a complication is most notable, and in the large proportion of cases there is no complaint of pain. The countenance affords valuable information in the way of expression and change of color, and the mental faculties are almost always perturbed in febrile disturbances of old age. The course and duration of the disease differ from those of middle life in that the completion of the earlier stages is sooner accomplished and the stage of resolution more protracted. Recovery, when it occurs, is generally marked by a somewhat lengthened crisis; and the critical diarrhea continuing through the lysis is more common than a critical sweat.

"The experienced physician finds that physical examination of the chest of the aged is a new problem Senile changes in the lungs and chest will modify sounds, and practice alone can make one familiar with their altered character. At first there is a tendency to arrive at erroneous conclusions, aside from the suspicions aroused by the slightly altered breathing, and physical signs offer little information until the exudate has filled a portion of the lung to a considerable extent; dullness is often a sign of relative value only. The crepitant rale is seldom heard. It may be developed occasionally by obliging the patient to take a deep inspiration, but as a rule the disease is not detected until too late. If the breathing is tubular anywhere it is apt to be heard over the root of the lung. Dullness over the upper lobe is not as marked as at the base, owing to the rigidity of the sternum and chest wall and the retraction of the lung away from the ribs. Tubular or bronchial breathing, when found, is most distinctive and sufficient for a diagnosis. It is even more intense than that heard in the adult, and is often more metallic in quality. Bronchophony is changed somewhat by the weak, quavering voice, and resembles egophony. Deep percussion is more apt to bring out the resonance of the whole chest, and should be employed carefully. Areas of dullness found in the chest of the aged may be due to senile changes, and are often confusing. Fluid in the pleural cavity is often overlooked, and much may accumulate with slight disturbance. The insertion of a needle is more often necessary to arrive at a diagnosis. Cases occur in which the exploration of the chest gives negative or confusing results, and it becomes necessary at times to depend somewhat upon the associated symptoms; especially is this true in the earlier stages.

"These briefly constitute the more reliable signs and symptoms. The important point in diagnosis is to suspect and search for trustworthy evidences of the disease. It is necessary to appreciate the extreme frequency of pneumonia in old people; the fact that of all acute diseases of the aged, pneumonia is oftenest latent, and that it produces the highest range of temperature and greatest prostration. Of all the characteristic symptoms, elevation of the rectal temperature is the most constant and important. I have never noted its absence, even in walking cases or in the insane. At times it is the only indication of acute disease in the aged. Broncho pneumonia may not be associated with pyrexia, but my experience would indicate at least that *lobar* pneumonia of the aged is seldom afebrile in character.

"The diagnosis must rest largely upon the high temperature and the physical signs. The diseases which frequently simulate pneumonia of the aged are hypostatic congestion, simple congestion, edema, capillary bronchitis, pleurisy with or without effusion, and tubercular infiltration. The differentiation can not always be made by consulting the physical signs, but generally it is not difficult if prominent features of the case are considered. The points of differential diagnosis are not so broadly defined in the aged, and analysis must be cautious and slow."

This description of pneumonia of the aged, for which the author deserves much credit, will be appreciated particularly by those readers who have had hospital experience and most of the statements in the paper will find their corroboration and approval.

Election of Officers.—A list of the officers of the American Medical Association and of the Missouri State Association for the ensuing year will be found among the items. The REVIEW wishes to congratulate both societies upon the newly elected officers.

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CORRESPONDENCE

Dr. Paquin's Paper—"The Basis of Personality and the Responsibility of Criminals."

Editor MEDICAL REVIEW.—Having read with interest the elaborate article of Dr. Paquin on "The Basis of Personality and the Rosponsibility of Criminals," I venture to offer a few comments.

The Doctor's definition of character and the processes of its formation are evidently founded on the theory of the evolutionary origin of the species and carries us back to a point in the annals of time at which it is supposed that the chemical forces evolved the protoplasm out of which sprang the living cell, the primogenitor of all subsequent living organisms.

Dealing first generally with the defects of modern social, civil and religious institutions as evidenced by what he conceived to be signs and symptoms of decadence or retrogression, he comes to the consideration of the two classes of criminals the discussion of whose mental status and legal responsibility are the special subjects of the paper, viz., the murderer and the rapist, the latter of whom he very justly says "arouses sickening disgust in the heart of every true man and woman," and assigns as one of causes for the existence of the white ravisher, "atavism, by which is brought forth in an individual the characteristics of animalisms of some ancestors of the generations past."

This assumption of an ancestry in the lower species at some pre-historic period is, to say the least of it, far-fetched, and we may say also, unfair, for the reason that it carries the discussion beyond the pale of rational criticism, where there are no data by which arguments, either pro or con, are susceptible of demonstration.

But even if we assume that man is the product of a succession of transformations as here indicated, both authropology and physiology lead us to doubt the possibility of this outcropping of a passion which ought to have become extinct or been transformed with the transformation of the species. For instance, if we assume that man was either evolved out of, or is simply contemporary with one of the ape species and traceable to a common ancestry, this anomalous out-cropping of animalism which manifests itself in the violent assaults and sexual coercion of women and the mutilation of undeveloped girls ought to be quite as common among the ape species as in that of the human. It should also appear and be susceptible of demonstration that other physiological and anatomical anomalies reflecting the original stamp of a common ancestry is exhibited quite as frequently in all the brotherhood of the species as is rape in that of man, which does not seem to be the case. On the contrary, man stands alone in the frequency of this outrage.

Again, the Doctor attributes the more frequent perpetration of this crime against morality and the personal rights of women by the negro to the fact of his less advance in civilization, "evolution not having modified their brutal feelings and instincts to the same degree that it has mastered them in Caucasian races," and he pleads this fact in palliation of his crime and mitigation of the penalties.

If these were evidences of the frequent perpetration of this act among animals in any of the species below man—either extant or extinct—the reasoning from the premises might be allowed some weight, but the allusion to the act as "brutal" does seem to me to be an unjust aspersion of the character, not of man, but of the brute.

This anomalous use, or abuse, of physical force for the gratification of the sexual passion, is, if not peculiar to man, of more frequent occurrence with him than with any other species of which we have any knowledge. Why then call it brutal, or the outcroping of the passion of a brutal ancestry? The act of the ravisher does not identify or classify him with the brute of any species below that of the genus homo.

The brute is governed in the exercise of the reproductive function by the law of instinct which prompts an undeviating fidelity to purpose, and constrains and limits indulgence to mutual consent and co-operation. The stoutest and most vigorous in procreative power, as well as the most ferocious, quietly awaits the ovular seasoning and consent of the female, which shows that the perpetrator of this act of sexual violence is the product of a species which is supposed to be governed by intellect and reason, and is therefore released from the operation of the law of instinct. If, then, we concede that rape is due to the outcropping of the instincts of a brutal ancestry, they must have been of a species of which we have no knowledge.

Newport, Ark., May 10, 1894. G. HUBT, M.D.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, May 26, 1894, the Vice-President, HEINE MARKS, M.D., in the chair.

* * *

DR. MCINTYRE presented a specimen of "Double Carcinoma Mammæ." They were taken from a woman, 39 years of age, single, from whom the doctor, three months ago, had removed a myomatous uterus. The involvement of the breasts had begun at that time, and a diagnosis had been made. Recently the tumors increased very rapidly and became very painful. The

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operation was done about twelve days ago and passed off without any special incident. Healing is complete, and the sutures were removed on the tenth and twelfth day respectively.

The specimens themselves present nothing remarkable, but are of interest on account of uniqueness of the condition. There was nothing in the condition which required hysterectomy suggesting malignancy; it seemed to be a pure myoma. No microscopical examination was made. The point of special interest, in the speaker's opinion, is the non-malignant character of the uterine trouble, coupled with a malignant disease of the breasts.

Dr Meisenbach doubted that the condition of the breasts was a carcinomatous one, judging from the history given by Dr. McIntyre. If it had been malignant there would have been an involvement of the axillary glands. Carcinoma of both breasts occurring simultaneously is very rare condition. A positive diagnosis could not be made without a microscopical examination.

* * *

Dr. W. H. Mayfield read a paper (See page 473), entitled,

Ventilation.

* * *

Dr. C. H. Hughes said, that the system described by Dr. Mayfield, is known as the downward system. It is exceedingly expensive and requires a great deal of apparatus. It has been in use for twenty years; it was tried first in Philadelphia, and has been tried in twenty or thirty asylums in this country and in Europe, but has been abandoned in most instances. One of the greatest objections is, that it requires the keeping of all windows closed, lest its proper working should be interfered with. It contravenes Nature, and whenever we undertake to contravene Nature we have a big job on our hands.

Dr. Mayfield replied, that in its improved condition, it is far superior to any other. It should be built into the building to insure proper success. The Johns Hopkins authorities have introduced it into their buildings and would not do without it. In the Baptist Sanitarium the temperature has been reduced four degrees in a short time, and this property of regulating temperatures is one of its chief advantages.

* * *

Dr. C. H. Hughes read a paper (See page 474), entitled,

Woman in Medicine,

in reply to Dr. Abeken's paper on the same subject read before the society a few weeks ago.

* * *

Dr. Love thought, that the profession in general felt about as he does, in reference to this question. Whatever they may think of woman's ability to cope with the difficulties that will surround her on entering the medical profession, and however much they would like to see woman on a pedestal, there are times when she must make individual efforts to gain a livelihood. If she wants to be a doctor, let her be a doctor; let her have anything she wants, from a medical diploma up or down.

Dr. Abeken did not consider Dr. Hughes' paper a reply to his; in fact, the doctor practically agreed with him on the most important points. The speaker was credited with saying, that polyandry was a proof of woman's inability to cope with man; whereas, if Dr. Hughes had read the paper correctly, he would know that this argument was offered as a proof of woman's mastery over man. Then, Dr. Hughes credited the speaker with the statement, that woman's brain is smaller than man's in proportion to her body weight; whereas, just the opposite was said. Further, the speaker did not say that woman *could* not enter politics and medicine; he said, she *may* not, and gave his reasons for his position.

* * *

Dr. H. W. Loeb presented a number of charts, illustrating

The Mirror Test for Nasal Obstruction

by a number of cases of different character, which had recently occurred in his practice.

The test is a very simple one and is based on a physical property of expired air; that is, upon the condensation upon a cold surface of the moisture suspended in the breath. The patient is placed before a mirror as closely as possible, and directed to expire air through the nostrils, keeping the mouth firmly closed. The speaker first began his experiments with this test, about nine months ago, at which time Zwardemacher, of Utrecht, Holland, published an article upon the same subject. This author's experiments were made with the mirror in a horizontal position. The speaker could not recommend this method, as his results were not as favorable as when the mirror was held vertically.

The charts presented, were drawings representing the area of condensed moisture on the cold surface. They were taken from cases of different character of obstructions of the upper air passage, including septal deviations, septal spurs, polypi, adenoids, hypertrophied tonsils and hypertrophic rhinitis. In each case the difference in volume of air passing through the respective nares was distinctly shown, as was also the increase in volume resulting from removal of the cause of the obstruction.

The speaker did not claim that this test alone will lead to a diagnosis of the character of the obstruction, but it will enable one to demonstrate the necessity of surgical interference. It will solve this question in the mind of the general practitioner, and he will no longer relegate cases of nasal obstruction to what is called "catarrh," ordinarily presumed to cling to a man for the rest of his life.

Dr. Fairbrother said that he had often had occasion to doubt the quality of the respiration going on through the nares, and saw in this test a practical method of arriving at a satisfactory conclusion. It demonstrates also the anatomical conformation of the lower end of the

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nasal septum, a point illustrated by the two separate areas of condensed moisture on the surface.

Dr. Jennings, while admitting that the test was very interesting, failed to see its utility as a means of diagnosis. If a dignosis of nasal obstruction is to be made, why not do so by a direct examination with a speculum, and determine its exact nature at once?

Dr. A. D. Williams, too, failed to see any practical utility in this test, as an aid in determining the nature of a nasal obstruction.

Dr. Charles Barck had seen the test performed a number of times, and was astonished at its simplicity and the sharp, definite picture produced on the glass. It is of decided advantage in enabling us to arrive at a quick diagnosis, and we have no other method by which we can diagnosticate the quantity of obstruction so read ily. Of course, we must determine the precise nature of the obstruction by a direct examination.

Dr. Greer suggested the practical utility of the test, in demonstrating to the patient that there is an obstruction in the nose.

Dr. James considered the test very interesting and of value in many instances. He called attention to the possibility of an error in diagnosis, in the condition of passive hyperemia—alternating stenosis. In this condition an obstruction would be indicated by this test one day, and on the following day it might have disappeared from the one side and be present on the other.

Dr. Loeb closed the discussion by again insisting upon the practical value of this test. The point made by Dr. Greer, is particularly applicable to his experience with patients. It is only with the greatest difficulty in some cases, that patients will submit to surgical precedures, even in marked conditions of nasal obstruction; but this test demonstrates its necessity in so practical a manner, that they rarely refuse to submit after having seen its necessity so practically portrayed. It would be unreasonable to claim that it is a means of diagnosticating the character of the obstruction.

Cincinnati Obstetrical Society.

Discussion of Dr. Palmer's Case (See Page 476).

Dr. G. S. Mitchell.—The essayist has certainly introduced a very interesting method, and probably a practical method. Aside from gonorrhea, we all know the most frequent cause of sterility is probably a rudimentary uterus. A rudimentary uterus necessarily means rudimentary ovaries and tubes. The ovaries and tubes dominate the development of the uterus. In the class of cases the doctor has referred to, the rudimentary uterus or the infantile uterus, as it is sometimes called—we always have dysmenorrhea. These are the cases in which we have the most painful form of menstruation, and are the most difficult to treat. They are the cases in which the operation of celiotomy is frequently made for the removal of the appendages. My own belief is that should a woman with an infantile uterus become pregnant she will abort, for the uterus is not sufficiently developed to furnish a healthy decidua. I have no confidence in either electricity or dilatation, or in any other method for the cure of sterility in this class of cases. My experience, although not very large, has justified this opinion.

I use electricity a great deal in my practice, and, notwithstanding what the text-books say as to the application of the positive and the negative pole, I feel sure it makes very little difference whether you use one or the other, only the negative pole is a little more irritating. The results are about the same.

Dr. Chas. Bonnifield.—I cannot quite agree with Dr. Palmer that the uterus will be as tight as ever a few weeks after dilatation. I frequently have these cases come back to my office a month or two months after a rapid dilatation, when I can pass a very much larger sized sound than I could before the operation was done. Of course, it does contract to a certain extent, but I do not believe ordinarily in a year it will get back to where it was in the first place, especially if packed tightly with iodoform gauze and kept in a stretched condition for from one to five days after the operation.

Dr. T. P. White.—I would like to make a few remarks. I cannot agree with Dr. Mitchell as to its making no difference which pole is used in the cervical canal. In the first place, it is a well-known fact that if the negative pole is introduced the flow of blood will increase and the pole will slip out very easily, but introduce the positive pole and you will find it difficult to displace it. One acts as a hemostatic, decreasing the flow of blood; the other increases the flow of blood, and at the same time increases the vascularity. If the positive pole is used, it is a great deal more difficult to introduce than without the current; on the other hand, if the negative pole is used, it will be found to produce a spongy condition of the os and allow of elasticity and stretching. With regard to the dilatation, I am in favor of Dr. Palmer's method. Always use the negative pole. I have had some experience in the development of muscular tissue.

There is an old saying that physiology is life; if the blacksmith uses his arm, it develops muscle. You want to bring in a state of contraction and relaxation, and the state of contraction and relaxation brings on an increase in the muscular fibres. The ordinary faradic will not produce an increase of the muscular fibres; its action is through the nerve endings. The nerve endings will not produce a contraction. The mild secondary or galvanic battery will produce this. I have had several cases of infantile uterus in which I have used the battery with ten or fifteen, or even up to forty milliamperes. It would make the uterus larger, but did not seem to make it healthy. Afterward I applied the interrupted galvanic, and I have had in using that decidedly more success than with the plain galvanic.

Dr. Palmer.—I must make a very few remarks in reply. In the first place, I am very much surprised at

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the remarks of Dr. Mitchell, that there is no difference in the polar effects. You can develop the uterus to a degree with the negative pole that you cannot do with the positive pole. You invite a flow of blood with the negative pole, while you induce a contraction with the positive pole. As to the permanency of the results, I cannot be mistaken. Again and again have I noticed that after using the tents or the dilator, unless the cervix is lacerated and remains ununited, the contraction will return, generally in a few weeks. In these cases of so-called infantile uterus, with conoid cervix and pinhole os externum, it does not follow that there must be a similar involvement of the ovaries and tubes. Judging from the physiological action of the ovaries, there is every reason to believe that the ovaries in many of these cases are developed sufficiently, so that if the uterus is correspondingly developed conception will occur and gestation be completed. In all the cases I have referred to gestation has continued. In one of them parturition is due within two months.

ABSTRACTS

SURGERY.

The Etiology of Chronic Hernia, with Especial Reference to the Operation for Radical Cure.—Bishop (*Lancet*), in an interesting article, shows by quotations from a number of eminent authorities the frequent failures that follow the operation of so-called radical cure. The author formulates the prevailing ideas as follows:

1. Hernia is a protrusion of viscera from their normal plane, though the walls which ordinarily contain them.

2. The viscera that are normal, contained within walls of normal strength, do not protrude.

3. If viscera protrude, such a condition is due to (*a*) an inordinate length of their attachments (the mesentery); (*b*) an abnormal attachment of the mesentery to the back of the abdomen (Lockwood); (*c*) constitutional weakness of the walls and abnormal patulousness of the normal orifices (Mitchell Banks); (*d*) effects of injuries, operations, sudden strains in lifting, etc.

4. Reducible, incarcerated, obstructed and strangulated hernia are all varieties of the same condition.

5. The results of operation for radical cure upon all varieties should influence our prognosis as to the prospects of any one.

Particular stress is laid upon the fourth proposition. Excluding congenital hernia, the author suggests that all other cases are naturally divisible into two classes—acute or strangulated and chronic or reducible; and further that these are distinct in causation, pathology, and course, and that their prognosis and treatment should be separately considered. Under chronic hernia are included the incarcerated and obstructed varieties.

Causation.—The exciting causes of acute hernia are doubtless those usually given, viz, strains, as by sudden lifting, etc.; but it is stated that these cannot produce chronic hernia, the causes of which are comparatively slight, and from within, but which act continously or frequently. The one is unavoidable, but happens seldom; the other is curable or avoidable, but happens frequently.

Pathological appearances.—The sac in chronic hernia is slowly produced, and is never tightly distended; it lies in folds at the point of exit from the abdomen. These folds radiate outward over the parietes, and tend to unite when once the efficient cause is removed, so as to form a collar at the level of the ring.

Course.—The course of chronic hernia may be divided into three stages:

1. Pre hernial, or that which precedes any external evidence of hernia. It is peculiar to this variety.

2. The stage of growth, which lasts from the time of appearance to the period when the efficient cause ceases to act.

3. The stage of rest, when the efficient cause is removed and only subordinate or accessory causes remain operative.

In acute hernia there is but one stage, which is terminated by operation, unless reprehensible delay is permitted, when there are two—the stage of tension and the stage of gangrene.

The results of treatment should be kept distinct. In the acute variety the state of the intestine is of the first importance; in the chronic variety, the condition of the abdominal wall. In acute hernia operation is a matter of immediate necessity; in the chronic form, one of convenience. In the acute variety the risk to life is great; in the chronic it is practically *nil*. In acute hernia the vitality is already, before surgical interference, greatly lowered, so that the expenditure of a few minutes more or less over the operation may make the difference between life and death to the patient; in the chronic variety, the time expended on the operation is of secondary importance, so that every detail as to technique may be carefully attended to. After operation for the cure of chronic hernia the foundation for relapse is often laid during the first week, when the parts are still in a plastic condition, and when, if the efficient causes are still acting, a return is unavoidable.

If the viscera protrude, it is due to:

1. The inordinate length of the mesentery.

2. Abnormal attachment of the mesentery to the spine.

3. Constitutional weakness of the walls and abnormal patency of the normal orifices.

4. The effects of injuries, operations, strains, etc.

The influence of constitutional weakness, and the effects of injuries, etc., the author meets with the following statements:

1. A careful study of pathological specimens of re-

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ducible hernia reveals none of the changes usually to be found in lesions of other parts of the body, due to sudden causes. It reveals, rather, very definite and well marked differences between herniæ which have been produced suddenly, *i. e.*, strangulated or acute, and those now under consideration. The appearances, as actually seen, are such as are only compatible with the action of a comparatively gentle but prolonged continuous or frequently intermitting force.

2. A superficial inquiry in the case of a reducible hernia will usually elicit a declaration of injury, but careful cross questioning will frequently reveal some condition antecedent to the injury mentioned, which is the real cause.

3. Many persons suffering from hernia are men who have enjoyed continuously good health, are descended from healthy parents, are physically stronger than their fellows, and many have shown, by the fact that they have reached a ripe old age in spite of this drawback, that they are of good constitution.

In explaining the formation of a chronic hernia the author calls attention to the following points:

The abdomen is a closed cavity, the wall of which is composed of three layers; of these, however, the cutaneous may be disregarded, inasmuch as it offers no resistance to the outward progress of the hernia. The muscular coat is quite resistant, but is incomplete at certain points. The peritoneal covering is complete, but offers less resistance. As the contents accurately fill the cavity, if the abdominal wall contracts, the internal pressure is increased and there results slight bulging of the peritoneum at the points at which the muscular wall is incomplete. At first the peritoneum resumes its normal condition after the pressure is removed, but finally after the bulging has occurred a number of times, the elasticity of the parts is diminished and the pouching becomes permanent. In this stage there may be no symptoms or if present are apt to be so slight as not to be noticed. There are, however, a number of exceptions to this rule, illustrations of which are cited by the author.

Attention is called to the fact that the folds which are seen at the neck of a hernial sac, and which radiate for some distance on the parietal peritoneum, are observed only in the acquired reducible form, and are never seen in a congenital or an acute hernia. The effect of bronchitis in causing a constant cough, and of occupations which frequently demand a strain upon the patient, are considered the efficient causes of hernia, which will surely develop once the pouching of the peritoneum has occurred, if the efficient causes remain active. The author has illustrated the views expressed by frequent references to specimens from the Museum of the Royal College of Surgeons and by numerous clinical cases.

In an attempt at radical cure of chronic hernia the choice of operation becomes a matter of great importance. Any plan will probably fail, however, if the cause which originally produced the condition is not removed. To be certain of its previous removal, it is obviously necessary that there should be no doubt as to its identity. This is the task which the author has assumed, and from his study he believes the following conclusions are justifiable:

1. That chronic and acute hernia are absolutely different things, agreeing only in the fact that they are both protrusions of viscera through their normal environments.

2. That they differ in etiology, pathology and course.

3. That, especially from the point of view of radical cure, it is important to distinguish between them.

4. That in discussing the feasibility of operations for radical cure, and especially the permanency of their results, the etiology of chronic hernia is of immense importance, since an operation for the cure of the results of a cause is almost certain to be useless whilst the cause remains in operation; and if the cause can be found the patient may be warned to avoid it after the operation has been performed, in order that permanency may be rendered more probable.

5. That in the case of chronic hernia the cause is never one acting suddenly and singly, as overlifting, strains, falls, etc, but always one acting slowly, persistently, gently, habitually (such causes are difficulties in urination and defecation, certain occupations, and, chiefly and most prominently, coughing in all its forms).

6. That the claims of any operation for the radical cure of chronic hernia cannot at present be properly estimated, and that they never can be unless acute and chronic herniæ are absolutely separated, and the true effective causes of them are duly appreciated, other causes being previously carefully eliminated.

MEDICINE.

The Principles of the Treatment of Gonorrhea.—Professor Neisser, the distinguished discoverer of the gonococcus, considers that all rational treatment towards the cure of gonorrhea should be based upon the recognition of that micro-organism as the pathogenic principle of the disease (*International Medical Magazine*). The greatest difficulties encountered in its eradication are that it does not remain localized in the urethra, but spreads to the cord, epididymis, prostate and bladder in the male; to the uterus, tubes, ovaries and peritoneum in the female; and that the virus in the later stages is situated deep beneath the epithelial layers, extending thence to the surface or deeper tissues, thus forming a chronic source of infection. It can only be easily reached in the first stages. The aim should be to prevent an invasion of the deep urethra and not to allow the disease to become chronic.

Treatment should be begun as soon as possible. The substances used must be (*a*) such as will kill gonococci, (*b*) which increase the inflammation as little as possible, (*c*) which do not injure the mucous membrane. such are nitrate of silver 1-4000 to 1-2000; ammon.

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sulpho ichthyol., 1 100; weak Rotter's pastilles, free from carbolic acid and mercury, 1 pastil to 250 of water; bichloride of mercury, 1-30,000 to 1-20,000. Pure astringents in the early stage are unsuitable, as they may serve to spread the infection. Cauterizing solutions of great strength, which may cause stricture, are dangerous, as are also most mechanical methods, such as the endoscope, bougies, etc. The best treatment is the early and frequent antiseptic irrigation of the urethra. For practical reasons, viz., the wide spread of the disease, injections with large syringes must generally be used instead of irrigations.

In the female the treatment should consist of thorough mechanical cleaning of the urethra and cervix, also using douches and injections.

The general dietetic, hygienic and antiphlogistic measures are useful, and should be employed as far as possible. In all cases not very acute the presence of a posterior urethritis should be recognized and treated locally if an examination discloses the presence of gonococci. The treatment should not be limited in duration, as the aim should be not rapidity, but certainty. In chronic cases it should be determined if the discharge is infectious, and if it is so it should be treated by irrigations or instillations. If it is simple we must be guided by the pathological and anatomical changes in the mucous and submucous membrane as to the line of treatment it is best to employ. For the most part these cases require no treatment at all. When the deeper tissues are affected, sounds, instillations, the endoscope and massage should be used.

The successful treatment of gonorrhœa in the female is attended with much more difficulty than in the male, and without frequent microscopical examinations judgment as regards the therapeutic result is impossible. Treatment should be begun as soon as possible and followed up most energetically, as the tubes, uterus, ovaries or peritoneum, once infected, are very difficult to cure, frequently necessitating grave surgical operations.

Uric Acid and Disease.—According to Haig, uric acid is always produced in the same proportion as urea, but is excreted in various proportions, remaining, when excreted, stored up in the liver and spleen. The uric acid is not injurious while stored up, but when circulating in the blood, and when it appears in excess in the urine, it is proportionately increased in the blood. Whether the uric acid shall be left in the system or excreted, depends upon the alkalinity of the blood. When the alkalescence of the blood is increased, the uric acid is dissolved out of the tissues, carried into the circulation, and there produces its peculiar effects. As there are normal variations in the alkalinity of the blood, corresponding to variations in the acidity of the urine, there is a diurnal variation in the excretion of uric acid. It is thought that when uric acid is circulating in the blood there is a rise of arterial tension due to irritation of the arterioles.

There are many objections to this theory. Haig estimates the uric acid by a method which yields too high a result. In my own experiments, the uric acid is converted into ammonium urate, decomposed by dilute hydrochloric acid, and filtered, and the uric acid separated by the filter. This is the method recommended by Von Jaksch, and this is sufficiently accurate for clinical purposes, though it is said to yield too little uric acid. My figures, however, are very nearly the same as those of Haig, and the method is certainly sufficiently accurate for comparing the varying conditions occurring in the same case.

Considering the diurnal phenomena, Haig dwells only upon the alkalinity of the blood, and this is presumed to vary inversely as the acidity of the urine. But it has been found that the acidity of the urine varies inversely as that of the gastric juice. The di-sodium phosphate and the sodium bi carbonate contained in the blood, although of alkaline reaction, are theoretically acid salts. During the oxidation processes of the blood, acids are constantly forming in it. Divers glands are constantly withdrawing acids as would be done in a laboratory by a dialyzer. Muriatic acid is conspicuous for its diffusibility. During digestion the acidity of the urine diminishes; during fasting it rises. The introduction of the alkaline bases with the food intensifies this. The more vigorous the digestion and the functioning of the kidneys, the more perfectly would the uric acid be removed. In a paper published by Haig, in 1891, he states that the acid tide reaches its height about midnight, and from lack of supply it then begins to fall away. This is contrary to both theory and fact, yet on this statement Haig bases many assertions. According to theory, the acidity of the urine should be greater in the morning hours before breakfast. I have tested this on one healthy adult. The acidity was at its maximum at eleven o'clock in the evening, but the acidity before breakfast was almost as high. Haig explains all the injurious effects of uric acid by the hypothetical rise of arterial tension, yet he does not furnish any proof that uric acid causes such a general arterial tension. He has in one article presented a few sphygmograms, but in not one of these cases was the uric acid measured, and three of the sphygmograms were taken from Haig himself. The greatest excess of uric acid has been observed in leucemia, anemia, and phthisis, in all of which the vascular tension is low. It is the retention in the nerve tissues of the toxic products of nervous function that causes irritation of the vaso-motor center, and this is followed by a rise of vascular tension. This is well observed in asphyxia, where the molecular respiration is arrested and carbonic acid retained in all its tissues. The rise of tension in nephritis is due to the deficient elimination of similar toxic products in the blood, but not necessarily uric acid. Scanty acid urine is habitually noticed in lithemia. The deposit of uric acid does not necessarily imply anything more than a deficiency in the water excreted in the urine, but this latter probably indicates a retarded metabolism. Water is constantly formed during metabolism, and it is this water

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which constitutes the bulk of the water in the urine. If this be deficient, urea is liable to be deficient. Haig quotes the following table from Garrod, and thus analyzes it:

On a mixed diet, the ratio of uric acid to urea was one to twenty nine; on an animal diet, it was one to thirty-eight; on a vegetable diet, it was one to twenty-two. In all these cases the amount of urea varied inversely to the amount of nitrogenous food; so, of course, the uric acid ratio varied. Haig claims that meat increases both urea and uric acid, and its salts increase the acidity and cause the retention of uric acid. This seems to be an extraordinary juggling. Haig says that when uric acid has contracted the arterioles of the brain, a timely dose of acid will "free the brain circulation from the power of the uric acid and produce an increase in its size and a free flow of blood from its vessels.

In six cases in which I had administered citric acid during migraine, the headache was promptly dissipated. I have made a rather prolonged experiment on a patient, who answered all the description of the lithemic condition and lithemic headache given by Haig. He says that uric acid is always diminished before and during the headache, and that it is greatly increased after the headache. He does not take into account the fact that during a violent sick headache patients are very apt not to eat anything at all. In the case referred to by me there was, on March 14, severe headache for the entire day. Examination of the urine of the night before showed the ratio of uric acid to urea to be one to forty. During the day there was still a diminution in the uric acid, the quantity of urea remaining about the same. On the next night, hower, the ratio of uric acid was increased very much, and the urea was much diminished, the ratio being one to forty, but on other occasions the ratio was enormously increased. On the day after the headache the toxicity of the urine was also examined. According to normal conditions, a rabbit should be poisoned by an amount of urine which represents from thirty five to sixty cubic centimeters per kilogramme of rabbit weight. Measured by this standard, I found in my patient a great diminution in the toxicity of the urine. In another typical lithemic patient, a mild diet with lithia and vichy greatly relieved the symptoms. During the headache, the ratio of uric acid to urea was one to twenty-four. After improvement the amount of urea remained almost precisely the same, but the uric acid was diminished both absolutely and relatively, the ratio to the urea being one to sixty. —Mary Putnam Jacobi, in *Medical Standard*.

Bismuth in Gastric Disease.—Matthes (*Centralbl. f. inn. Med.*) has investigated, both experimentally and clinically, Fleiner's method of treating irritative diseases of the stomach with large doses of bismuth. The results of the treatment were very successful, especially in lessening pain. From experiments on dogs, the author shows that ten to twenty minutes after ingestion the bismuth sinks to the lowest part of the stomach whereas several hours later it is found spread ever and fixed to the stomach wall, being intimately mixed with mucus. Even with a full stomach a large part is also found similarly deposited. Against the action of chemical agents on the stomach wall this deposit of bismuth is most resistant. In men shortly after the ingestion of bismuth, the water used for washing out the stomach returns clear, but later if the stomach contents be expressed, bismuth with mucus is removed. Experimentally bismuth is shown to increase the secretion of mucus. To determine the action of bismuth in cases of erosion, etc., of the the stomach, defects were made experimentally in dogs in the stomach mucous membrane and bismuth was then administered. In some experiments nothing particular in regard to the defect could be made out. In two experiments, however, positive results were obtained. In one an adherent crust was found acting as a protection to the defect. Sections taken from both cases showed healing ulcers. In the case of the crust, crystals were found in the granulation tissue, and proved both morphologically and by a color test to be bismuth crystals. No symptoms of bismuth poisoning occurred. Experiments thus showed that bismuth adheres to the defect in the stomach wall, and that healing may take place under a crust so formed. This crust is not always found, but its occurrence once shows the possibility of it. Comparison with control animals showed that in those treated with bismuth the defects healed more rapidly. Digestion can go on while the bismuth deposit is present. If an artificial digestion, however, be shaken up with bismuth, pepsion will be carried down by the bismuth and digestion is thus hindered. The author says that both experimentally and clinically Fleiner's method of treatment is practically and theoretically correct with the exception of the question of position (in reference to the site of the ulcer), which he shows to have no influence in regard to the subsequent deposition of the bismuth.—*Provincial Med. Journ.*

The Action of Duboisine upon the Nutritive Processes.—In a further study of the action of duboisine as a therapeutic agent, E. Marandon de Montyel (*Bull. de Therapeutique; Ther. Gaz.*) publishes the details of twenty-five cases of mental disease in which the drug was employed. According to the results obtained, duboisine, though possessing good hyphotic and excelent sedative virtues exersises untoward effects, such as habit, gastro intestinal disturbances, cardiac weakness, and malassimilation. The author formulates the following conclusions:

1. Duboisine has undoubtediy exerised on the subjects observed an action manifested in a faulty nutrition.

2. This deleterious action on nutrition has been produced independently of the gastro intestinal troubles that the drug may cause; because, when given after

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meals, in the majority of cases, especially upon those cases of general paralysis and lypemaniacs, the admin istration of the drug, notwithstanding the integrity of the digstive tube, has been followed by the same deleterious action upon nutrition.

3. This action, other things be equal, is aggravated by disorders of digestion; but it occurs in those subjects that have never suffered from such troubles as well as in those who are victims of gastro intestinal affections, a proof that the action is independent of these disturbances.

4. This malassimilation under the action of duboisine seems to occur in connection with other disturbances, such as slowness of the circulation, and particularly a rise of the bodily temperature.

5. It is absolutely necessary, in order to combat this deleterious action of duboisine upon nutrition, to associate the drug with a tonic reconstructive regime. The medicament, therefore, should be given with caution to patients of feeble constitution, especially in those diseases characterized by decided nutritive deterioration, and in all these cases the employment of the remedy should not be prolonged.

6. General paralytics are the ones who suffer the least and the most from this peculiar action of duboisine; they furnish the greatest number of those that escape the action; and yet, on the other hand, of all demented patients those suffering from disorders of nutrition are the ones to exhibit the greatest loss of bodily weight.

7. All lypemaniacs, without exception, are susceptible to malassimilation from the action of duboisine, and the malassimilation, even after the administration of the drug has been suspended, continues and becomes more difficult to combat than in the case of general paralytics or those suffering from simple dementia. Therefore, although the loss of weight is not as decided as in cases of general paralysis, it may be said that the action of duboisine upon nutrition is manifested more particularly in cases of lypemania, and to a minimum degree in casses of simple mania.

8. In the large majority of cases the suspension of the drug is the beginning of a return of the patients to their original bodily weight, but notwithstanding this, the mental excitement returns, placing the patient in much less favorable conditions. All this seems to prove that the deleterious changes produced in the nutritive processes have been the result of the action of the drug.

9. The subcutaneous injection of duboisine, even in doses of 4 milligrammes, and continued for a fong time never causes local troubles, neither in general paralytics nor in vesanic patients; quite large amounts of duboisine have been administrated in a certain number of epileptics.

Viability of the Pyogenic Micrococci.—A somewhat remarkable case of osteomyelitis is reported by Schnitzler (*Centralb. f. Bakt.*), which illustrates the long viability of the pyogenic cocci under certain circumstances. One patient, a man forty two years of age, had suffered from an acute octeomyelitis of the right tibia when a boy of seven. There was then discharge of pus and bone from the tibia with resultant sinus formation. The sinus healed in about six months and he remained well during thirty five years. In August, 1892, the right shin began to be painful, and he had occasional irregular fever. After four months of these symptoms he presented himself for treatment at the hospital. Operation showed thickening of the tibia in the site of the old sinus, but no fistulous opening could be found, and healing of the old process of thirty-years before appeared to have been complete until, on chiseling into the bone, an old cavity about the size of a walnut was discovered. The cavity contained a few fragments of bone and a small amount of pus. It was surrounded by a dense layer of bone and was lined with granulation tissue. The contained pus and portions of the granulation tissue removed with the sharp spoon were examined bacteriologically, with the result of obtaining pure cultures of the staphylococcus pyogenes aureus which inoculations into rabbits proved to be virulent.

Because of the dense tissue surrounding the abscess in the bone, and because no fresh source of infection could be discovered, Schnitzler feels compelled to believe that germs pocketed in the bone during the primary infectious process had transmitted their virulence through the many generation which must have existed during the thirty-five years which elapsed between the primary disease and the subacute relapse.

In support of this view reference is made to similar cases reported by Krause, Ressemann, and Muller, in abscesses of bone developed in the site of suppurative processes which had "healed" thirty, thirty, and four years before respectively.

Enteric Fever; Perforation; Peritonitis; Recovery.—Newton (Chicago *Med. Rec.; Med. and Surg. Rep.*) has reported the case of a lad, 17 years old, who came under observation on the third day after having taken to his bed, with diarrhea, tympanitis, and pain in the right iliac fossa. The temperature was elevated and rose spots were present upon the abdomen. Restriction of the diet to milk and beef-tea, and the administration of a mineral acid and pepsin, and bismuth, salol, opium, were followed by amelioration in the symptoms. On the seventh day, however, the temperature again rose, the pulse became accelerated, small and thready, the face pinched, the skin cold and clammy, the tongue dry, and the abdomen tympanitic and extremely sensitive. It was learned that during the previous night, while a movement of the bowels were taking place, sharp, acute pain was felt in the side. Perforation of the bowel was diagnosticated, and celiotomy advised but not acquiesced in. Morphin, strychnin and whiskey were repeatedly administered, and by the following day the patient had rallied somewhat. He remained in a precarious condition for several days,

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when he gradually began to gain ground. For the succeeding three weeks the temperature pursued an irregular course and the diarrhea was particularly obstinate. After the lapse of another week indications of the presence of an abscess between the anus and the scrotum appeared, and three ounces of fetid pus was evacuated. Through the opening made a probe could be introduced into the abdominal cavity for a distance of ten inches. The opening was kept patulous by means of gauze, which was removed after the lapse of twelve days, and the external wound was permitted to heal. From a few days after the occurrence of the supposed perforation complaint was made of a particularly sore spot, about three inches in circumference, below and a little to the left of the umbilicus, and over which percussion yielded a dull note. It is believed that the spot indicated the situation of the local peritonitis that existed, and which remained local from the formation of intestinal adhesion as a result of the exudation of plastic lymph. As peculiar features of the cases are pointed out the early date of the occurrence of perforation, the situation in which the abscess pointed, the failure of the temperature to decline, and the absence of vomiting.

OBSTETRICS AND GYNECOLOGY.

Self-Infection in Child-Bed.—F. Ahlfeld in a paper published in the *Zeitschrift f. Geb. und Gyn.*; Brooklyn *Med. Journ.* reaches the following conclusions:

1. The occurence of fever in child-bed, originating without previous examination, cannot be longer doubted.

2. These fevers are, for the most part, unimportant, though severe and even fatal cases are probably.

3. In well conducted institutions the number of fever cases resulting from self-infection in child-bed is larger than those caused by infection from without. The latter, however, are usually of a severer type.

4. The percentage of morbidity and mortality in an institution in which due care is taken to prevent infection from without, depends on separating the primiparæ from the multiparæ and on the number of operative cases.

5. Preliminary disinfection of the birth canal is an important prophylactic measure.

6. Sublimate remains the best disinfectant.

7. The seat of infection is generally not the external genitals, but rather the cervix and endometrium.

8. More fever cases in child-bed are to be considered as resorption fever. They result principally from retention of the infectious child-bed secretions.

9. The seat of most active absorption is the uterine mucosa; next, that of the vagina.

10. The poison taken up is, as a rule, promptly eliminated—probably through the urine.

11. Pathogenic microorganisms are always to be found in the vagina. They need only a favorable culture medium to develop their activity. This they find in the decomposing contents of the vagina and uterus after labor.

Labor and Heart Disease.—Tarnier (*Jour. des Sages-Femmes*) notes that in heart disease all great and sudden efforts put the patient in peril, and labor is no exception to the rule. Running upstairs, racing to catch an omnibus or train and sexual intercourse may all cause fatal syncope. The danger of labor is not special in this sense; it is dangerous in heart disease simply because it involves much effort. Tarnier induced premature labor in a lady who was subject to advanced heart disease. Notwithstanding all precautions, she became moribund in the course of her labor. Directly she died, he turned and delivered a live child, which survived. A woman was brought into Tarnier's wards in January, 1894, in labor, with advanced heart disease and asystolism; she was apparently, dying. Immediately about 300 grammes of blood were withdrawn, and the symptoms of suffocation diminished. The patient grew calmer. As it was extremely advisable to bring on labor quickly, as the forceps is apt to fatigue the patient, and as, in particular, the child was dead, the basiotribe was applied and delivery effected. A few days later the mother was doing very well.

NOTES AND ITEMS

Statistics of the Profession.—The British "Medical Directory" for 1894, gives the following as the number of the medical profession for the year 1894:

In London, 5,590; in the provinces, including Wales, 14,897; in Scotland, 3,107; in Ireland, 2,485; registered practitioners resident abroad, 3,209; Naval, Military, and Indian Medical Services (excluding those which appear also in other lists), 2,426; "too late" list—additional names, 58. The total number of practitioners in the "Directory" for 1894 is 31,772, as against 30,759 in the previous year. This shows an increase in the twelve months of 1,013. The obituary list, which seems to be wonderfully complete, gives the deaths as 639. The above figures give one medical practitioner in London for every 750 of the population; in the provinces, one in 1,650; in Scotland, one in 1,300; in Ireland, one in 1,900; and in the United Kingdom generally one in 1,450. According to the official statistics published recently in Austria, there were in that country 6,057 physicians holding the diploma of M.D. in the year 1891, and 6,565 in 1892. In the former year there were also 1,588 surgeons of the old surgical schools, but in 1892 the number was reduced by death to 1,582. The total number of medical practitioners in Austria in 1893 was 8,097, against 7,645 in 1891. The figures for 1892

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have not yet been published. According to the *Annuario Statistico Italiano*, under the authority of the general direction of statistics at Rome, the total number of medical practitioners in Italy in 1892 was 19,120, being a proportion of 6.2 per 10,000 of population. The ratio varied in different parts of the kingdom, from 11.1 per 10.000 in sixty nine chief towns of provinces, to 5.3 in the rural communes. The following figures show the number of practitioners and the proportion to population per 10,000 in several of the principal cities: Rome, 510—11.6; Naples, 1,506—28.3; Milan, 374—8.8; Turin, 292—8.8; Palermo, 225—8.2; Genoa, 255—12.0; Florence, 258—18.1; Bologna, 144—10.2; Venice, 127—8.5; and Catania,114—9 5. Between 1878 and 1892 the absolute number of doctors increased by more than 1,000—19,120 as against 18,044, but the relative number decreased from 6.5 to 6.2 per 10,000 of population. It is quite clear from these figures that in no part of the world is the proportion of physicians to the population as great as in the United States.

New Sign of Lead Poisoning.—In eighteen out of twenty persons affected with lead poisoning M. E. Destree (published in the *Journal de Medicine de Bruxelles*) has observed a narrow zone of hyperesthesia at the level of the articulation of the manubrium with the ensiform cartilage. As a general rule, pressure on the sternum is really painful only under 1 or 2 conditions —namely, when the bone is diseased, as is the case in leucocythemia with lesions of the bone marrow, or when the thoracic wall and the skin are hyperesthetic, as happens in hysteria, sometimes in neurasthenia, and often in chronic alcoholism. But in these latter cases the hyperesthesia is not found to be so limited in extent as it is in lead poisoning. Saturnine hyperesthesia is indeed a symptom of nervous origin, comparable to the intercostal nuralgias observed by Rosenthal. There is nothing astonishing, says the author, in the fact that the sternal hyperesthesia is so precisely marked when we remember that Beau has shown that there is never any anesthesia at the level of the scrobiculus cordis in lead poisoning, and that in lead colic there is very decided hyperesthesia of the abdominal wall.—*New York. Med. Journal.*

Rubber-Tissue Gloves for Protecting the Hands during Operations.—Dr. T S. K. Morton has called attention to thin rubber gloves, which have been in the market for some time and are coming into use for general surgical purposes and for handling strong solutions. "I have found these rubber-tissue gloves extremely useful in handling offensive cases. With them it becomes a pleasure to make rectal examinations, because the skin of the hands does not become saturated with fetor, and it is wonderful how many more examinations one makes. Also in handling strong solutions, or even in operating upon septic cases they have an excellent field. The rubber is so very thin that it interferes very little with the tactile sense. As a rule, they go on with great ease and come off readily. The dealer said he was not sure that they would last very long in handling instruments, but thus far I have used them considerably, and they are still practically in perfect order. But if they could be used only a few times, the price, $2 50, with 40 per cent discount to hospitals, is not excessive. I think them of great value when handling morbid growths, or making post-mortems, where it is possible to be inoculated. They bear steam sterilization and soaking in strong solutions of carbolic acid of bichloride."

American Medical Association.—At the meeting of the American Medical Association in San Francisco, the following officers were elected for the ensuing year:

President—Donald McLean, M.D., Michigan.
Vice President—Dr. Newman, Illinois.
Secretary—W. B. Atkinson, M.D., Pennsylvania.
Assistant Secretary—H. B. Ellis, M.D., California.
Librarian—G. E. Webster, M.D., Illinois.
Editor—J. B. Hamilton, M.D., Illinois.

The American Medical College elected:

President—Dr. E. Fletcher Ingalls, Chicago.
Secretary and Treasurer—Dr. Perry S. Millard, St. Paul.

The American Medical Temperance Association awarded a price of $100 to Taft, of Chicago, best essay, his subject being "The Affinity of Alcohol for Oxygen of Blood."

Officers were elected as follows:

President—N. C. Davis, M.D., Chicago.
Vice President—I. C. Quimby, M.D., Chicago.
Secretary—T. D. Caruthers, M.D., Hartford, Conn.
Treasurer—Dr. Webster, Chicago.

Chairman Committee of Arrangements for the next meeting—J. J. Chisholm, M.D., Maryland.

Board of Trustees—Joseph Esmond, M.D., Indiana; J. T. Priestly, M.D., Iowa; D. W. Graham, M.D., Illinois; John F. Woobdridge, M D., Ohio and J. W. Graham, M.D., Colorado.

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The next convention will be held at Baltimore.

Newly Elected Officers of the Missouri State Medical Association, are as follows:

President—J. M. Richmond, M.D , St. Joseph.
First Vice-President—Dr. Pisgah Thatcher.
Second Vice-President—Dr. A. B Shaw, St. Louis.
Third Vice President—Dr. James McComb, Lebanon.
Fourth Vice-President—Dr. J. N. Baskett, Hannibal.
Fifth Vice-President—Dr. H. C. Crowell, Kansas City.

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Recording Secretaries—Dr. Frank R. Fry, St. Louis and Dr. I. B. Kabler, Hannibal.

Corresponding Secretary—Dr. C. F. Wainwright, Kansas City.

Radical Method of Curing Corns Between the Toes.—Dr. A. M. Phelps advises that in case of corns between the toes, which after ordinary treatment recur, the skin between the adjacent toes should be entirely removed and the toes brought together by a line of sutures and allowed to unite. The webbing of the toes is entirely unimportant.

Gonorrhea.—A new specific for gonorrhea is a one per cent solution of creasote in decoction of Hamamelis combined with boric acid. It is claimed that this will destroy the gonococci in two hours.—*Pacific Med. Jour.*

The American Academy of Medicine will meet in Jefferson, N. H., August 29 and 30.

℞ In debility from seminal Losses.
Elix nutrans ℥viii
Sig—Dessertspoonful four times a day after meals and at bed-time.

WHERE WILL YOU SPEND THE SUMMER?—The Baltimore & Ohio Southwestern Railway has an attractive list of Summer Resorts reached via its lines. Before you decide where to go, ask some agent of the B. & O. S. W. R'y for a copy or write O. P. McCarty, General Passenger Agent, St. Louis, Mo.

NEW HAVEN, CONN., March 17, 1894.

DIOS CHEMICAL CO., St. Louis.—I have used Neurosine in a case of sleeplessness, and obtained results certainly the best I ever had in so short a time. The patient, an aged man, had suffered for many years. It has also relieved his irritableness of temper.

THOMAS CRIL, M.D.

MOUNTAIN LAKE PARK.—On the main line of the Baltimore & Ohio Railroad; on the crest of the Alleghenies, 3,000 feet above tide water, is one of the most charming and healthful resorts and contains 800 acres of forest and glade The temperature is delightful and hay fever and malaria are unknown. The Park is lighted by electricity. The hotels and boarding houses are first-class; board from $7 to $15 per week. Furnished cottages or rooms at reasonable rates. All Baltimore & Ohio trains stop at the Park. Write to L. A. Rudisill, Superintendent, Mountain Lake Park, Md., in regard to hotels, etc., and for information as to time of trains, rates of fare, etc., call on any agent of the Baltimore and Ohio Southwestern Railway, or address O. P. McCarty, General Passenger Agent, St. Louis, Mo. 28

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C.P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

In the lowest forms there are no generative canals. Both sets of generative products are passed into the coelom, whence they reach the exterior by the abdominal pore. * * * In the salmodiæ the eggs are passed into the abdominal cavity and are evacuated through the abdominal pore. Again (p. 53): "In their simplest conditions the products of the reproductive glands merely break away from the spot where they are formed and pass into the digestive sac, or into the body cavity, or even directly to the exterior. Gradually, however, ducts which are often very complicated in character are added on; it is probable that these ducts are not primitively connected with the germinal glands. Where these ducts can be seen to have any relation to other organs there appear to be excretory organs and have been altered so as to correspond to this function. It becomes a great question where the excretory ducts of the reproductive matter are not in all cases excretory organs." When, having passed beyond the primitive ductless stage, inquiry is made into the origin of the excretory ducts of the reproductive glands, we find that they are furnished by the primitive renal excretory apparatus (archinaphron), the organs of which eliminate the nitrogenous excreta from the body-organs distinctly derived from dermal glands. (Gegenbaur, p. 46): The primary archinephric duct divides into two parts so that there come to be two canals. "One commences at the anterior abdominal orifice of the primary duct and has no further relations to the kidney. This is the Mullerian duct" (Ibid, p. 604). Mueller's duct becomes in females efferent or oviducts, portions of which are ultimately differentiated into uteri. (The other achinephric duct becomes the duct of the kidney or ureter).

And the late Mr. Balfour, in his admirable work on "Embryology," shows how closely related the excretory and generative ducts are in the vertebrata.

The basis for the generative and urinary ducts is formed by the segmental duct, which is the duct of the pronephres. These he says "are the most primitive

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parts of the vertebrate excretory system." The mesonephros or Wolffian body is formed of glandular canals which open in the body cavity of the embryo. The segmental duct becomes, in many forms, divided longitudinally into two parts: one with segmental tubes, forming the Wolffian or meso-nephric duct, the other the Muellerian duct.

The intimate relations thus indicated primitively between the urinary and generative organs foreshadow a connection which persists even in the highest mammalia, a point remarked by Aristotle.

In the amphibia the Muellerian ducts form oviducts opening separately into the cloaca. "It is generally increased in size at the breeding season; this results in its being thrown into a number of coils. In the oviparous species (Salomandra), the terminal portion performs the function of a uterus" (Gegenbaur, p. 612). A similar but more advanced condition obtains in the sauropsida, the oviducts being large coiled canals with mucus membrane set in longitudinal folds, which are most marked in the lower portion. This latter portion secretes the shell, the anterior part of the albumen.

We find then that even in certain low forms, as in some of the foregoing, the orifices of the genital canals are apt to display pigmentary or vascular effluorescence at the breeding times. The stimulating influence of activity in the initiatory acts of reproduction upon pigmentation generally is remarkable and conspicuous throughout nearly the whole of the animal and vegetable world. The exquisite beauty of flowers is sexual, and in close alliance therewith is their perfume, often equally attractive.

The brilliant hues of many birds, fishes, etc., owe their existence to a sexual origin; and as already remarked, the orifices, whence the germinal product escapes, are in some of the latter highly pigmented.

It is however with the mammalia that our study of the comparative physiology of menstruation properly begins. They as a class are elevated above the other portions of the animal world by the endowment of a higher organization in many respects, and particularly by the possession of organs conferring upon them their distinctive appelation; organs which we shall find to exist in correlation with certain developments of other portions of the reproductive system as well as of the general system.

Gegenbaur (p. 615) remarks: "In the mammalia the generative apparatus undergoes great metamorphoses owing to the further development of various portions of the efferent ducts and the formation of a number of accessory organs. In the female apparatus these are largely correlated with the relations that obtain between the embryo and the maternal organism. As this is least marked in the monotremata they undergo the least amount of modification and have therefore direct relations to the lowest divisions of the vertebrata and especially to the souropsida. The oviducts open separately into a sinus urogenitalis which communicate with the cloaca. The lower end of the oviduct, which is distinguished by the greater thickness of its muscular wall, forms an uterus; but this merely corresponds to the structures which likewise function as an uterus in many anamnia and sauropsida."

With regard to the monotremata the lowest members of the mammalian series, but little information is available, respecting the phenomena observable at their periods of sexual excitement. The class is now neither numerous nor widely distributed and opportunities for inquiries have not been at my command.

Pouchet remarks of them: "Many of the lowest mammalia are oviparous (*Ornithorynchus paradoxus*, Blum; *Echidna hystrix*, Cur), or produce only simple embryos (Didelphys), whilst all others present the characters of most marked viviparity." They resemble birds in possessing a common cloaca, into which the generative, renal and intestinal canals open. They have no vaginæ and the uteri are rudimentary, affording no provision for the sustained growth and nourishment of the fetus, which, like that of marsupials, is soon cast out.

In marsupials (such as the kangaroo) the evolution of the sexual system is somewhat more advanced, there being no vaginæ, which however opens into the sinus urogenitalis. The upper portion of each different duct forms an oviduct, while the next and thicker-walled portion forms an uterus. Gegenbaur says: "Each of the two uteri opens by a papilliform process into a portion which from the exterior appears to be common to them both, and which is formed by the union of the two Muellerian ducts. A curved vagina is given off from this on each side (Didelphys), or the commencement of the tube is replaced by a cecal sac which is pushed out backwards, and is usually, though not always, divided internally by a median partition; from this sac the distinct vaginal canals pass in a curved direction to the urogenital sinus (Halmeturus)."

My inquiries into the manifestations of sexual aptitude exhibited by the females of marsupials, like the kangaroo, tend, so far as they go, to support the hypothetical conclusion to which my researches had already led me, namely, that in accordance with their lowly position as mammals having inferiorly evoluted sexual organs, they would display comparatively slight and inconspicuous local evidences of the rub or "heat."

[TO BE CONTINUED.]

Sore Feet.

℞ Tannine,
Sennine, - - - - - - - - - aa ℥j.
M.
Sig. Use as dusting powder.

Corns.

℞ Acid salicylic, - - - - - - - - ℥j.
Ext. cannab. indic., - - - - - - - gr.x.
Ether, - - - - - - - - - - fℨij.
Collodii, - - - - - - - - - fℨiv.
M.
Sig. Apply once or twice each day.

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Average Weekly Issue, 10,000 Average Monthly for the Year, 43,333

MEDICAL REVIEW.

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ORIGINAL ARTICLES

Antisepsis and Antiseptics.

BY CHARLES MILTON BUCHANAN, M.D.,

Professor of Chemistry, Toxicology and Metallurgy, National University; Member of the District of Columbia Medical Association, of the Washington Medical Society, of the Washington Chemical Society and of the American Chemical Society, etc.

[CONTINUED.]

IX.—Their Value and Use in Surgery.

The primary elucidation of the principles of antisepsis originated with the surgical branch of the healing art and it is but natural that we should look to this department of medical science for subsequent development and improvement. Have our expectations been realized or has Time, with ruthless hand, swept all record from the history of progress? Nearly three decades ago the principles of antisepsis first came into practical use in surgery and the subsequent history of those principles, from the very first period of their inception, has been one of continual and uninterrupted progress. Within the past few years the results of bacteriological research have completely revolutionized surgical pathology and surgical methods. A large majority, if not all, of the acute and chronic inflammatory processes and lesions, as well as wound complications, which are brought to the attention of the surgeon are due to micro organisms. For this reason it is necessary and expedient that the importance of bacteriology as an integral portion of the science and art of modern surgery be given due and proper recognition. These recent advances in surgical pathology, involving surgical methods as they did, laid the very foundation for those brilliant achievements of modern surgery which read like the pages of a medieval romance. The debt which modern surgery owes to bacteriology and bacteriological research is peculiarly great, for to it must be accredited a large measure of the success attendant upon its later years. The knowledge which has been derived from the systematic investigation of disease, impelled by the aid afforded by bacteriology, has opened new fields of usefulness and materially extended the sphere as well as increased the utility of the surgeon himself. Indeed to such good effect that many conditions formerly and vainly treated by medication are now speedily and successfully obviated by the art of the surgeon.

In the olden days operations were performed, it is true, upon the various cavities, cranial, thoracic and abdominal; but such cases, for reasons which are now obvious, were so speedily and uniformly terminated by death from septic causes that intrepid indeed must be the heart and hand which dared stand undaunted in the very face of assured disaster. The values of antisepsis and asepsis were less than vaguely known and appreciated and though such conditions were at times somewhat imperfectly obtained this was rather the result of chance than design. The bravery and no less the success of a McDowell under these conditions, with a howling mob on one side and a fearful operation with a still more fearful outlook as to mortality on the other, was little else than marvelous and phenomenal. This exceedingly hazardous chance of success has been entirely obviated by modern methods; the *sanctum* of the human body is now devoid of any *sanctum sanctorum* within which it is forbidden the invading hand of the surgeon to enter— the very centers of life and function are approached with little or no fear of untoward consequences. This confidence is not the child of audacity but the offspring of confidence and success. Abdominal surgery has sprung into bud and blossom beneath the kindly influence of modern aseptic and antiseptic methods. The thoracic cavity is invaded and no ill result is anticipated. Cranial surgery is now a sturdy youngster though only of some seven or eight summers. Cerebral localization is the logical outcome of modern methods of research and the spirit instituted has stimulated cerebral surgery to renewed strength. All of these triumphs were possible only upon one contingency—complete and thorough antisepsis, which of course includes asepsis.

But the greatest achievement of modern surgery is not so much in the triumphs of either abdominal or cerebral surgery; nor indeed of any one or more particular classes of operations. This lies in the *method* which has brought every organ within the domain and under the influence of the surgeon—it forms the very foundation upon which the superstructure rests. The victory and success of that method manifests itself no less in

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recovery from the simplest operation than in that from laparotomy or craniotomy or the extirpation of a cerebral tumor without the formation of pus or the development of pyrexia. So great is the importance of this method that the introduction of antisepsis marks the dawn of modern surgery. The value of the service which Lister had rendered mankind was exemplified when Queen Victoria conferred knighthood upon him. This was honor, this was glory—but the unfading and imperishable glory of Sir Joseph Lister's life is to have ushered in an era which has snatched life from death in that it has so markedly reduced the mortality of mankind in so far as death by unnatural septic means is concerned. He recognized and appreciated the fact that wound infection is dependent upon the presence and influence of micro organisms. But he did much more than this, for he adopted measures of treatment based upon this truth; he not only recognized the evil and appreciated its source but also formulated a systematic method of combating these microscopic yet omnipotent as well as omnipresent foes of the surgeon. His fame will rest safely and securely upon the establishment of these fundamental *principles* even if every detail of his original method be supplanted by better ones. Indeed this has taken place to some extent already and will probably continue to do so. The original spray and dressing Lister has now discarded himself, explaining that these were but the essential crudities which occur in the development and perfection of any system. But the *principles* upon which they were founded remain absolutely unaltered and unshaken in every particular; for of a truth, the elapse of time and the accumulation of experience all bear testimony to, as well as strengthen, their unassailable position. The antiseptic and aseptic methods depend no less upon the researches of bacteriology than upon clinical experience—indeed, in the development of these methods both work together hand in hand, the one announcing principles which the other puts into practice. As Dr. Edwin Hamilton has most aptly said: "The surgery of to day seems elevated on a tripod of three solid enduring feet—they are, anesthetics, antiseptics and experimental research."

The stage of controversy as to the value of the methods of antisepsis and asepsis has long past, for, with the exception of a very limited number of individuals the surgical world is unanimous in its unqualified approval of the method which has yielded so many brilliant results. Moreover those very few who affect to dispute the efficacy of the principles make use of them by different methods. Any procedure made with a view to the exclusion of germs is metaphorically and literally an antiseptic procedure. Lawson Tait who bitterly and maliciously assails not only Lister's methods and principles but his very personality also, completely sterilizes every instrument or dressing by the *antiseptic* action of heat; his excellent results are due to a rigid and thorough application of these principles—yet he piously raises his hands to Heaven and renders thanks that he is not as other men are. As Dr. J. William White aptly says, the animus of his attack is shown when Tait naively says that Lister has completely ignored him and his results for the past twelve years. Bantock owes his results to precautions identical with those of Tait. Their mortality records are low, it is true,—4 per cent in Bantock's practice and 3.3 per cent in Tait's practice. But Thornton, a countryman of Tait, working under the same conditions and in the same field of work, has, by a judicious combination of antisepsis and asepsis, obtained the marvelously low mortality record of 1.88 per cent—a distinct and signal gain over both Bantock and Tait, Bantock's mortality being 122 4–9 per cent greater and Tait's 83 1–3 per cent greater than that of Thornton. These results have also been attained by Price and others of our own country.

The clinical and bacteriological proof that suppuration, pyemia, septicemia, erysipelas and other similar complications are due to the presence and influence of micro organisms is practically absolute. Lister has said: "The germ theory of putrefaction is the foundation of the whole system of antiseptic surgery, and if this theory is a fact, it is a fact of facts that the antiseptic system means the exclusion of all putrefactive organisms." This theory is founded upon a mass of correlated and substantiated facts, experimental, clinical, physiological, pathological and bacteriological in character; these are sufficient to establish it upon a firm and substantial basis. But the time for controversy is past; the *principles* are indubitably established—the only debatable ground is as to the selection of *methods* of carrying out those principles and as to the perfection of details. The constant and thorough researches of patient and trustworthy investigators have but confirmed Lister's statement in every degree. The clinical proof is equally strong. The statistics of all operations, major and minor, in the pre-Listerian period as contrasted with those of the past two decades, establish the fact that those septic diseases which were rife in private, but more especially hospital practice have almost entirely disappeared. Formerly these diseases slew thousands and tens of thousands, but now the mortality from these causes is almost *nil* and the diseases themselves have been almost entirely banished. Formerly surgeons attempted to *produce* suppuration and to prevent primary union; modern surgery teaches us to secure primary union and to prevent the occurence of suppuration—indeed the formation of pus is looked upon as a tangible cause for reproach to the surgeon in charge. Compound fractures, which were formerly among the most dangerous of accidents, are now scarcely more so than simple ones. The rate of mortality consequent upon amputations and abdominal sections has fallen nearly to zero. Formerly recovery in such cases, especially in abdominal section, was *hoped* for and fondly hailed as an evidence of superior skill on the part of the surgeon. At the present day recovery is not simply hoped for but confidently expected as a matter of course

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—the operator not only deserves success but he also commands it.

The history of the development and establishment of this great theory which has so profoundly influenced the progress not only of surgery but the whole of medical science as well, is the result of the labor not of one but of hundreds of the world's choicest intellects; it constitutes one of the brightest of all the chapters in the record of human progress. It belongs to no one nation exclusively but is the common property of the civilized world, for it has been at once an evolution and a revolution in the complete consummation of which all nations have shared. In Germany and France Schwann and Pasteur demonstrated that putrefaction is due to the presence of micro-organisms. In Scotland and England Lister applied this fact to surgery, demonstrating that the statements of Schwann and Pasteur hold true also in the case of living flesh. In the United States, Austria and Germany further applications and perfections of technique have been attained; while in the United States, France, Germany, Great Britain, Italy and Russia immense strides have been made in the direction of the development of bacteriology and surgical pathology.

But let us glance briefly at some of the benefits which the principles of antisepsis, which naturally include those of asepsis, have conferred upon humanity.

In the period of 1864 to 1866 inclusive, Lister operated in the city of Glasgow. The mortality in this series of operations of all kinds was 45.7 per cent; these deaths were largely due to *septic* complications and diseases. In the period of 1867 to 1869 inclusive he began gradually to employ his antiseptic methods and the mortality sank remarkably—to *15 per cent!* This meant that whereas pervious to the use of his antiseptic method only slightly more than one half of his patients survived, under its use about six sevenths survived. He began to improve the details of his system and moved to Edinburgh. During the period of 1871 to 1876 inclusive he treated five hundred and fifty-three grave surgical cases with a mortality from septic conditions reduced to—*.36 per cent!* Thus in twelve years his mortality rate dropped from 45 7 per cent to .36 per cent; without antisepsis it was *127* times as great as with it. This diminution is so startling and so striking that when we remember that the different results were obtained by the same operator upon the same class of patients for practically the same injuries or diseases, they seem, *ipso facto*, not only conclusive but little short of the marvelous.

Somewhat later the methods of Lister and those current before the introduction were subjected to comparison. He, with antiseptic precautions, and Spence, without antiseptic precautions, worked in the same hospital upon the same class of patients for practically the same conditions. Spence lost three times as many patients as Lister. In deaths from infectious disease Lister had a mortality record of .33 per cent, while that of Spence was 2.4 per cent, *or nearly eight times as great as that of Lister!*

But these results were not peculiar to the practice of Lister, the originator of the system; they were corroborated and confirmed by every impartial observer and operator. Nussbaum has distinctly and expressly stated that in the forty years experience in his clinic, under himself as well as his predecessors, deaths from wound diseases and wound complications were so common, prior to the introduction of antiseptic methods, that even those patients with the slightest injuries frequently succumbed to them. He furthermore stated that during this same period erysipelas and abscesses were matters of daily occurrence, that 80 per cent of all wounds and sores were attacked by hospital grangrene and that nearly all cases of compound fracture terminated in death. But immediately upon the introduction of the antiseptic method all of these diseases suddenly disappeared and healing by first intention, *previously almost unheard of in his serviee*, became the rule instead of the exception. His statistics also show that while for sixteen years previously hospital gangrene, erysipelas, pyemia and septicemia had *never* been absent from the wards of the Munich General Hospital they suddenly vanished upon the introduction of antiseptic methods of wound treatment.

Volkmann states that in his practice the mortality in compound fractures was above 40 per cent. Immediately before he adopted antiseptic methods he had twelve cases of compound fracture, every one of which was terminated by death from septicemia or pyemia. He had become so discouraged by the alarming mortality from septic causes, the prevalence of gangrene, erysipelas, pyemia, septicemia, etc., that he declared his intention of closing his hospital. As a *dernier ressort* he tried the methods of Lister. From that time until the year 1881 he had in all 135 cases of compound fracture *with not a single death from septic causes!*—133 out of the 135 completely recovered; of the remaining two, one (a drunkard) died of *delirium tremens*, the other of fatty embolism of the lungs within two hours—before treatment had been fairly instituted. This means that only one death was directly due to compound fracture and even then by an unfortunate accident which can hardly be averted. In his practice previously, with a mortality of more than 40 per cent, he would have lost 58 patients. This means that in his experience with antisepsis in compound fractures up to the year 1881 he had saved 57 lives which would have otherwise been needlessly sacrificed. Contrast the mortalities—more than 40 per cent on the one hand, .74 per cent, three-quarters of one per cent, on the other. That is, this mortality without antisepsis was nearly fifty-eight (58) times as great as his mortality with it. What a parallel! The figures speak more forcibly than words. It is needless to say that Volkmann did not close his hospital, far from it—he became one of the sincerest admirers of Lister and one of the staunchest advocates of his system.

Monsieur le Docteur Briquot shows in his statistics

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that the mortality in the French hospitals after major operations had been 52.5 per cent before the introduction of antiseptic methods, but that the introduction of antisepsis lowered the death rate below 11 per cent. In the Pennsylvania Hospital there were 116 cases of compound fracture treated in the period 1839 to 1851. In these, excluding those requiring amputation, there were 51 deaths—a mortality of 44 per cent. In the New York Hospital, during the same period, there were 126 cases treated; in these, excluding amputations, there were 68 deaths—a mortality of 48.4 per cent. In the surgical clinics of Vienna and Zurich, during the period 1860 to 1876 and prior to the use of antisepsis here, there were reported by Billroth 180 cases of compound fracture with a mortality, excluding amputation, of 41 per cent. In the Obuchow Hospital of St. Petersburg, 106 cases gave a mortality of 68 per cent. In Guy's Hospital, London, there were, during the period 1841 to 1861, 208 cases with 50 deaths—a mortality of 24 per cent. It is but justice to whom justice is due to say that I have obtained many of the statistics above quoted, from a masterly and scholarly article upon antisepsis by no less an authority than the well known surgeon of Philadelphia, Dr. J. William White. An analysis of the 736 cases would give us an average mortality of 45 per cent *before* the use of antiseptic principles and methods; this corresponds with the statement of Volkmann that in his practice the mortality in compound fracture was more than 40 per cent. Upon the introduction of antiseptic methods it fell immediately to 4 per cent. That is, whereas in the 736 cases quoted more than 331 were terminated by death, such results under antiseptic precautions would only occur in about 30 out of the whole number of 736 cases. At the present day, with the improvements in methods, the mortality is still lower; now death is far more rare than it was formerly common. Dennis recently reported 516 cases of compound fracture in which there was absolutely no death from septic causes.

Dr. Thomas G. Morton in one of his Pennsylvania Hospital reports writes as follows:

"From the spring of 1875 to the same period in 1879, a period of four years, there were performed 108 amputations upon 100 patients. Of this number 17 died. Five of these deaths took place within the first thirty-six hours following the admission of the patient, and in each instance from recurring or continuous shock. * * * We are greatly pleased to be able to report that during the past five years there has not occurred in the surgical experience of the hospital a single case of pyemia. * * * We believe that this result is due to the very perfect system of forced ventilation by the fan, the scrupulous cleanliness of the wards, and the free use of carbolic acid in our dressings."

It is of passing interest to note that by the year 1886, nearly eight years ago, the value of antiseptic measures had even forced its attention upon crowned heads, for in that year the King of Servia issued the following proclamation:

"Whereas it is irrefutably proved by science that the so-called antiseptic treatment of wounds yields more beneficial results than all other methods, we are pleased to order that henceforward the said antiseptic plan of treatment be solely employed in all the hospitals of our kingdom, and that corrosive sublimate and iodoform be used until our further disposition."

Dr. J. Knowsley Thornton, the President of the Medical Society of London, in addressing that body, said: "I am not ashamed still to use the spray and all the precautions which have advanced my results in ovariotomy to 1 88 per cent mortality (as against Bantock's 4 per cent and Tait's 3.3 per cent) and I find increased practice and a steady adherence to methods which have yielded me good results in the past, increase in like ratio my success in all abdominal operations. Every operator of prominence improved his results enormously as soon as he adopted Listerism; then having learnt how to be surgically clean, he has found for himself ways of attaining this end with more or less success by methods differing from those of Lister. The sum and substance of it all is, that if we had never had Lister to teach us true cleanliness, we should never have used antiseptics, flushings or drainage tubes to attain it. The great advance is due to the antiseptic system, the minor details are merely the different ways of attaining the same end—asepticity. Time alone will show what is worth retaining and what we may safely cast aside."

At least ninety per cent of the surgeons of the present day recognize the value of the modern methods of operative and wound treatment. When we consider the formidable array of statistics, the conclusions drawn therefrom and the lessons which they teach, it seems established beyond all cavil, question or doubt that thousands of lives have been saved every year by judicious application of the principles of Lister that would have been sacrificed by an application of those methods which were in vogue prior to the introduction of antiseptic surgery. If such an abundant measure of success has attended the treatment of accidental and infected wounds, how much greater should it be in operative work; here the wounds are inflicted by the surgeon himself and under conditions which afford an opportunity of cleansing away most of the infectious material from the site of the operation. Thus the surgeon is enabled, as Fowler aptly says, "to apply the ounce of prevention rather than be compelled, as in accidental wounds, to use the pound of cure."

It is now clearly the legal as well as moral duty of every individual who attempts the practice of surgery to prevent the access of germs to the wounds of his patient by every means within his power. It is not a mere matter of choice, it is incumbent upon him, it is obligatory or else he must expect to bear the stigma of merited reproach. By proper care in the exercise of absolute surgical and bacteriological cleanliness this can be secured. As Gerster has said in his "Aseptic and Antiseptic Surgery."

"The fear of suppuration with its dreadful conse-

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quences does not stay now the hand of the surgeon as of old, when an operation was always considered a forlorn hope and a last resort. Strangulated herniæ, for instance, are not allowed to gangrene as often as formerly, and herniotomy is readily resorted to, as it is well known that the dangers of an aseptic herniotomy done on a healthy gut are diminutive in comparison to the certain and enormous danger of strangulation itself.

By the conviction that a fault of omission may be followed by irremediable mischief, the sense of responsibility is stirred up to vigilance, which again breeds self-reliance and firmness of purpose in advising and carrying out incisive measures, made clearly necessary by a well recognized danger to life or limb. And an additional degree of responsibility is imposed by the very safety of aseptic operations.

It can not now be successfully denied that *the surgeon's acts determine the fate of a fresh wound, and that its infection and suppuration are due to his technical faults of omission or commission.*

* * * But he who becomes a master, to whom the primary healing of a fresh wound remains not a curiosity but becomes a matter of course, will not doubt the great change that has come over surgery."

If it was possible by the aseptic methods to secure a complete and absolute exclusion of the germ from the wound surface then the use of antiseptic substances would be entirely unnecessary. But this ideal condition is neither completely nor easily obtained for the operator is continually liable to forget or neglect some minor detail or precaution which renders inutile all of the care hitherto taken; we must conjoin these precautions with the proper use of heat and antiseptics if we would secure further and proper protection. It seems strange to many how slight a discrepancy or flaw or lack of precaution may disturb the entity and success of aseptic methods; indeed it is exceedingly difficult to convince the majority of physicians (even those making use of proper precautions) that the touch of the completely sterilized finger or instrument to a non-sterilized object, such as one's own body or clothing or an assistant's clothing or a door-knob or an unsterilized instrument or dressing may vitiate the entire operation and seriously endanger success by the introduction of even a few microbic germs within the wound. For we must constantly bear in mind the remarkable fecundity of these lower forms of life, how a few solitary germs may within a very short space of time become many, many millions!

We frequently hear of such discussions as "Asepsis *vs.* Antisepsis," or are greeted by the news that *aseptic* surgery is displacing *antiseptic* surgery—just as though these were two diametrically opposed systems or methods. Aseptic surgery undoubtedly marks an important advance in the attempt to perfect surgical detail, but it is none the less antiseptic surgery. Antisepsis is that condition which is opposed to sepsis or putrefaction; it makes no difference whether the condition is obtained by destruction, inhibition or exclusion of the germ—putrefaction is prevented and that is the central and essential idea of antisepsis. The object of antiseptic surgery is to secure an aseptic condition in a wound. There is no opposition between asepsis and antisepsis, one is the logical outcome of the other. Although thorough and complete asepsis is the ideal of every surgeon at the present day yet it is no less equally certain that the time has not arrived when we can afford to dispense with antiseptics. It is undoubtedly a fact that aseptic methods should be reserved for sterile or sterilized wounds and not only to sterile wounds but to those in which we have reason to anticipate little or no discharge, with the accompanying risk of subsequent infection and putrefaction of such discharges. In all other cases chemical antiseptics are necessary; in infected wounds asepsis is an impossibility. Indeed in a large proportion of those cases which come beneath the control of the surgeon we need chemical sterilization of wounds and dressings as much as we ever did. There is as yet no good reason deduced for casting aside utterly the weaker chemical solutions which are in use at the present time. Undoubtedly all antiseptic solutions which are sufficiently strong as to appreciably compromise the vitality of the tissues must be discarded; but those disagreeable effects upon the hands of the operator and the tissues of the patient are usually only encountered when solutions of too great strength are used—such as 1:1,000 of mercuric chlorid or 1:20 of phenol. This objection, as White says, applies with much less force to solutions of 1:2,500 of the one and 1:40 of the other; these latter solutions experience has proven to be practically just as effective.

However, we must not forget that surgical disinfection has progressed not so much by the introduction of new and multitudinous antiseptics as by a better understanding of the modes in which they act efficiently and the conditions which impair such efficient action.

In the vast majority of cases organisms gain access to wounds by means of direct contact—that is, the germ is actually and materially conveyed to the seat of infection. Nevertheless the possibility of infection from the matter floating in the air is not to be overlooked altogether, although the chances of infection from this source are certainly slight; careful experimentation has demonstrated that ordinarily the organisms exist in this medium in so slight a degree as to hardly merit serious consideration. This may be due to the antiseptic action of light in combination with that of the atmosphere, which antiseptic properties we have mentioned in preceding papers; or it may be due to the fact that the organic elements as well as the inorganic elements of the atmosphere may be deposited finally as dust. Certainly settled dust, especially that of hospitals, is comparatively rich in germs. In the collections beneath the nails, especially of surgeons and physicians, and in the rich soil of the epidermis, in the clotted blood and dried infectious discharges upon instruments we find an abundance of micro-organisms, pyogenic and

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pathogenic. Indeed in operative work their presence in the epidermis and their non removal or non-destruction is one of the commonest and most potent causes of infection; then also the contact of non sterilized objects, whether they be the hands of the operator or of the assistants, or whether they be the instruments and surgical dressings used, furnish other palpable foci of infection. Or else absence of sterilization or imperfect sterilization favor the development of those organisms and substances which ultimately find their way into the wound itself where they encounter in abundance pabulum sufficient for their subsequent sustenance and by their presence and injurious action prejudice the natural operations of repair. It is much easier to destroy these organisms outside of the wound, or body, than in it, and in a proper appreciation of this fact lies confidence of perfect success. These conditions then demand the thorough preparation and sterilization of the surface of the patient, more especially in the vicinity of the site of the proposed operation; and not only a thorough sterilization of the epidermis itself but also of *every thing*, *absolutely everything*, which is in any way likely to come in contact with the wound area. There should be, if possible, absolutely no avenue by means of which infection can reach such area. Chemical sterilization is still important—even indispensable in some fields of modern surgery; but as concomitant and valuable factors we also have certain mechanical measures of purification which form an essential part of aseptic preparation properly so-called. No one link in the chain is to be overlooked Demosthenes once said that there were three requisites for perfect oratory, namely, action, *action* and ACTION. So also there are three essentials in perfect antisepsis, namely, thoroughness, *thoroughness* and THOROUGHNESS. The thickened epidermis about the wound edge is a favorite nidus for germs; they collect, and warmth and moisture aid in their subsequent development. Not only must the germ be thoroughly killed or excluded but the possibility or subsequent infection must also be forseen and guarded against. For instance, in even an ideal aseptic and antiseptic operation in which there is much subsequent discharge or oozing there is danger of infection and subsequent decomposition of these discharges; they must, if possible, be absorbed and sterilized and for this purpose dry dressings are frequently valuable. As Gerster says: "The dryer the operation the dryer the course of healing" and also that "dry absorbent dressings, favoring rapid evaporation, are most useful in the treatment of extensive aseptic wounds." Indeed in an extensive correspondence with the leading surgeons of America, Great Britain, France and Germany I find the dry dressing almost universally endorsed; the moist dressing being used in infected areas and the dry dressing being almost exclusively used in aseptic operative procedures.

Experiments upon animals, as we have previously shown, have demonstrated the fact that when micro-organisms were introduced into the circulation and any portion of the body was injured, that is where there was a local depression of vitality, that there developed a subsequent invasion of such injured tissues by the micro-organisms—that is, there was a sort of internal invasion. The virulence of such germs, or their capacity for virulent action, was modified in certain degrees according to the length of time they remained in the circulation; their number and vitality being evidently lessened the longer they remained in contact with the blood—that is, within certain definite limits. For instance, this power of the blood is definite and limited and in the case of invasion by large numbers of germs would be exhausted before securing complete destruction of all the germs. In this latter case, when the blood has lost its germicidal power it becomes a good culture medium and the germ then thrives rather than dies. Yet if limited numbers of these self-same micro-organisms be injected into perfectly healthy non-injured animals not only is such injection followed by negative results but the destruction of the germs is prompt. This demonstrates then that certain tissues have a certain amount of inherent germicidal power within certain limits; also that the healthy organism is frequently able to cope, unaided, with disease. But when the health and the properties resultant thereon are disturbed or when the germ invades in large and over whelming numbers it then becomes necessary to afford such aid as will reinforce these antagonistic properties which are peculiar to health. It is incumbent upon us to *prevent* infection, as far as is possible; this means that we should so protect the parts from contact with micro-organisms that their entrance within the systemic portals, or even their lingering at the gates as it were, would be an utter impossibility. If they once succeed in reaching the tissues, though every effort be made to destroy them lodged, as they are, in the vital strongholds, it is possible that though partly devitalized they may ultimately renew their life with as much vigor and be fully as capable of harm as before. In order to overcome this possibility we must prevent their access —indeed, as Gerster says: "Prevention has become the watchword of modern practice, and it can be said that, by the successful employment of the preventive methods of the present day, surgery has become a *conservative* branch of the healing art." After the germ has once gained entrance, and a foothold, not only may it be difficult either to dislodge it or kill it but in our efforts in the latter direction we may even seriously impair the vital activity of the cellular constituents of the adjacent tissues, producing almost as much harm as the germ itself The acme of success lies in preventing development—not in allowing it and then cutting it short subsequently, but in rendering it an utter impossibility. The acme of success lies in prevention.

In closing this brief and somewhat imperfect *resume* of the triumphs of antisepsis in the surgical art we can not refrain from quoting that magnificent apostrophe which Arpad Gerster has so eloquently uttered:

"Having passed in review the present status of anti-

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parasitic surgery, we see that although incisive changes have befallen the means employed, the principles upon which the discipline was grounded remain unshaken. The living spark of truth has survived the pedantry and over-zeal of the advocates, as well as the sneers and contempt of the opponents of the new departure. Its blessings have soothed and removed untold suffering and misery—have saved I might say, millions of lives. For all this humanity is indebted to one man, whose intellect pierced the deadly mists that overhung the practice of surgery. That to the activity of the surgeon, though it still remains surrounded by grave responsibilities, was added a vastly increased element of pleasure, the *gaudium certaminis* against disease and death—for this gift to his fellow-surgeons we are indebted to Sir Joseph Lister."

[TO BE CONTINUED.]

The Treatment of Empyema in Tuberculous Patients.—Dr. Charles Baumer, of Freiburg, presented a communication with this title at the International Medical Congress held in Rome, of which the following were the main points insisted upon:

I. In the early stages of empyema, and when the patient's condition before the appearance of this complication was not already hopeless, the following treatment is advised:

1. When pus micro organisms are present, thoracotomy.

2. When these are not found, the treatment must be at first expectant.

If the increasing amount of the exudate causes threatening symptoms, aspiration must be practiced and repeated until the suffocative symptoms subside; then, when the general condition is good, or perhaps better than it was, the radical operation (thoracotomy) is to be performed, provided the lung is found to be still capable of expansion and not too profoundly involved in the tuberculous process.

II. In empyema of long standing.

1. The treatment above sketched.

2. When cough, dyspnea and cyanosis persist after the removal by puncture or aspiration of perhaps several hundred cubic centimeters of pus, showing a very defective expansive power of the lung, if the patient is in fair strength a radical operation must be made (thoracotomy or Buelan's operation).

3. When the power of expansion of the lung is very greatly impaired, the general condition being good, however, and in the absence of fever, we must resort to palliative measures, such as punctures repeated as may be indicated by the mechanical action of the exudation—finally, perhaps, to Bluen's siphon drainage.

4. When the general condition is bad in consequence of the pulmonary disease or of complications (amyloid degeneration, intestinal tuberculosis, etc.) palliative measures only are admissible. — Maryland *Medical Journal.*

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Where Was the St. Louis Medical Profession?

Among the inexplainable phenomena of the history of the present one fact seems to be most significant, we allude to the scanty representation of St. Louis medical men at the San Francisco meeting of the American Medical Association.

It was not the fault of the various railroad lines that the representation from our part of the country was so meager; for weeks the agents solicited patronage for their respective lines among the doctors of St. Louis with the above result, to wit., four out of about seven hundred physicians. If it had not been for the indomitable energy of Dr. I. N. Love, this list might have been even smaller. The following gentlemen undertook the hardships of a four days travel to represent the medical talent of this city: Drs. I. N. Love, C. H. Hughes, A. H. Ohmann-Dumesnil, A. C. Bernays.

An Insolent Slur.

Another illustration, and a forcible one at that, of the advisability, repeatedly insisted upon by the REVIEW, of keeping reporters out of medical meetings, has been furnished by a scurrilous report of *The Examiner*, a

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San Francisco newspaper. The would-be witty scribe undertakes to lampoon one of the esteemed members of the St. Louis medical profession and his capacity of doing so may be judged by the following specimen of reportorial enterprise, gleaned from a number of the paper mentioned, dated June 7, 1894:

"This eminent Missourian is a handsome man. With old-fashioned courtesy, he appeared in full evening dress to read his paper. When he unfolded this paper there was a general movement of apprehension. It was on printed proof-slips, and there seemed quite enough of them to make a book instead of a paper which was to be a mere incident of the day.

"But however much the members were disturbed, the doctor was not. After an eloquent tribute to his profession he waded fearlessly into his subject and kept reading. His delivery was not that of an oratorical sprinter, and there was a great deal of matter on those printed proof slips.

"As he read the delegates began to fidget. Then when he had gone on for half an hour a few of the hungrier ones determined to forego a whack at the homeopaths in order to take an allopathic dose of luncheon. At forty-five minutes the few who were prompted by their stomachs became many. At one hour they became more. Still Dr. Hughes talked on.

"At times the handsome old man gave evidences of closing. Each time he was greeted with applause which seemed to stir him to renewed effort instead of giving him pause. The crowds surging lunchwards increased. Only about one-third of the number who had heard Dr. Hughes open were with him at the end of an hour and a quarter, when he had fully developed that all disease results from nervous and mental disorder, or something to that effect.

"When the doctor had reached his one hour and twenty eight minutes of reading and had just called for a glass of water, one of the heroic delegates who had remained rose with a gasp and said:

"'A point of order. The speaker has read more than his allotted twenty minutes.'

"Dr. Hughes pleaded to be allowed to proceed, but there was such a general objection, that he was shut off, and he reluctantly retired. Then, when it was proposed to give him the usual vote of thanks, a few of the disgusted ones, who were itching for a swipe at the homeopaths, voted no."

Many other derogatory remarks were made in this report, injuring the dignity of the meeting, but this will suffice to illustrate the mistake of allowing reporters to be present at meetings of this kind.

If medical congresses wish to have their proceedings published in the newspapers, they should instruct a committee, or the secretary of each section, to furnish the daily press with an abstract of such matter as will be useful for the general public to know, instead of allowing reporters to ridicule individual members of the profession; thereby injuring the reputation of and lowering the esteem for the profession as a whole.

Address of Dr. Alfred L. Loomis.

Dr. Loomis, in his address to the late Congress of American Physicians and Surgeons, paid a high tribute to animal experimentation. The fact that a large contingent of the uneducated or half educated laity seems to be of the opinion that animal experimentation is superfluous to the advance of medical science, and that even among the educated classes, excepting the medical profession, the great importance of this method of scientific research is not duly appreciated, some even working directly against it, should be a cogent reason to give utterances in favor of it from so well known an author as Dr. Loomis the widest possible circulation.

Dr. Loomis said (*Medical Record*) that every distinct advance, every established principle, and every universally accepted law of medical science had been in the past, and would be in the future, the direct, if not the immediate, result of animal experimentation.

The result of experimentation on animals within the present century had done more than all the experience of previous centuries to raise medicine to the dignity of a science, yet Galen might be said to have laid the foundation stone of medical science. He showed that the arteries contained blood, that the lung followed passively the movements of the chest, and that the diaphragm, though important, was not the only muscle of respiration. He also demonstrated the nervous control of the voice and explained the mechanics of respiration. In addition to this, he demonstrated the movements of the stomach and intestines and laid the foundation of our present extensive knowledge of the functions of the brain and spinal cord. It was only these portions of his vast labor that had stood the test of modern scientific investigation. From Galen's time to Harvey's great discovery very little experimental work was done, and medicine, instead of advancing to a science, became the plaything of theorists and impostors. Harvey, in 1620, established his great doctrine of the circulation of the blood.

The next series of epoch making experiments on animals was made by Galvani and Volta, in regard to the condition of the nerves and muscles. The first attempt to continue life for any length of time by means of artificial respiration had been made by Robert Cook, in 1664. This method was now the recognized means of preserving life in cases of asphyxia and in resuscitating the newly born. Boyle, near the close of the seventeenth century, showed that atmospheric air was necessary to animal life. Dr. Christopher Wrenn, of Oxford, was the first to make experiments on injecting substances into the blood-vessels. In 1866 the first transfusion of blood was made in animals. Mr. Boye afterward elaborated this method and showed that death from hemorrhage might be prevented by transfusion of blood. Bell, while experimenting on the facial nerve, established the important fact that the seventh cranial nerve was a nerve of motion and that the fifth nerve was one of sensation. This discovery had been fruitful

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of practical results both in medicine and surgery.

The great investigation of Magendie on living animals inaugurated the great work of the present century. The love of knowledge for its own sake was the sole motive of his work. He maintained that the science of life necessitated animal experimentation. By division of the anterior and posterior nerve-roots he demonstrated the existence of motor and sensory fibers. The impetus thus given to the study of the nervous system can hardly be fully appreciated. In addition to this, Magendie established methods of experimentation on the action of medicinal agents, and he was the first to demonstrate conclusively that poisons acted on the spinal cord through the circulation and not through the lymphatics and nerves. We might rightly regard him as the originator of the modern system of animal experimentation. Claude Bernard followed these experiments of his great teacher, and was able to demonstrate that the size of the blood-vessels was under the control of a particular set of nerves.

The speaker said that he would direct the attention of the opponents of animal experimentation to the fact that in all this list of investigations not a single experiment was directed immediately to the discovery of a cure of disease, but solely to the determination of the physiological function and normal action of the vital processes, and to defining the specific influences of given substances on the healthy living organism. The practice of medicine was not by instinct, but by the application of principles. It was not until Claude Bernard applied his experimental methods that the actions of medicinal agents were well understood. It was by such experimentation that modern therapeutics was emancipated from the bondage of empiricism, and no longer wounded friend as well as foe by aimless blows in the dark.

It was worthy of note that all these various investigators were working in one direction—the relief of human suffering. Hunter first learned by experiment on the lower animals that the growth of bone took place from the exterior; subsequently it was discovered that new bone would be developed from the periosteum after the removal of bone. This inaugurated a new era in surgical procedures. The anesthesia of chloroform was discovered through experimentation on a low form of animal life—the ant. The illustrious Simpson perfected his experiments in the use of chloroform on animals before trying it on the human subject. Hypodermic medication was used on sporting dogs before it was attempted on the human being. All the steps which were necessary to perfect Ambrose Pare's discovery of the application of the ligature on arteries were done on animals. The practical surgeon of to-day values even more highly than these great discoveries the antiseptics which have done so much for modern surgery.

It was, indeed, a significant fact that etiology, which should naturally come first in the study of disease, had hitherto kept in the rear, because it must depend entirely upon animal experimentation for its advancement. Trichinosis was discovered by investigation on animals. It was by laboratory experiments that it had been first proven that tuberculosis was an infectious disease. The valuable studies of Pasteur had introduced us into a new and strange world. No work had ever promised greater results than his. His methods of experimentation had been imitated by investigators all over the world. The crowning glory of Pasteur's work came with the discovery of the attenuation of bacteria. It was not possible to point to work of richer or grander promise, yet it was only possible by experiments on living animals. The time had arrived, the speaker said, when abstract principles were bearing fruit in the prevention and cure of disease.

The discovery of the bacillus of tuberculosis by Koch marked another great epoch in medical history, and it was only accomplished by a continuance of Pasteur's methods of animal experimentation. The light that flashed from Koch's laboratory was the dawn of hope that was already breaking into day when we would hold in our grasp the means of preventing and curing tuberculosis.

Within the past two decades animal experimentation had accomplished more in the field of cerebral localization than in all previous centuries of post-mortem study. Looking back over this history of medical discoveries it was evident that most of them had been barren of immediate results. The fatal error of the opponents of animal experimentation was that they demanded immediate results. The only ethical question was, What price should be paid for the benefit received? In the conflict with physical evil, medical science must be the first to meet the foe. No attempt had been made in this address, the speaker said, to conceal the precise methods of investigation. The question was, Does the end justify the means? In answer to this we could fearlessly appeal to all intelligent men for a just criticism. From the ignorant we need expect to receive only censure; but from those who in the valley of the shadow of death had learned what manner of men we were, we could confidently expect the answer, "We have trusted to you the lives of our dear ones; we trust to you God's dumb creation."

Pure Crystal Water.

It is with a degree of pride that we are able to place before our readers the advertisement (page 2) of the Crystal Water Company. From the fact that their water is pure as crystal, entirely void of any sediment, makes it not only invaluable for physicians in their surgical operations, but inexpensive and delicious for table use as well. Use their coupon found on advertising page 4, requesting free sample bottle.

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CORRESPONDENCE

Cysto-Fibroma of the Left Ovary.

Editor MEDICAL REVIEW.—In your issue of May 19, 1894, you publish a paper recently read by Dr. A. F. Bock before the St. Louis Medical Society pertaining to the removal of a cysto-fibroma of the left ovary; closing his report of the case the doctor states, "this species of ovarian tumor seems to be very rare, and that by some they are regarded as 'pathological curiosities.'"

Having removed a similar tumor on April 26, just one day previous to Dr. Bock's operation, the statement bearing on the frequency or rather infrequency with which such tumors are met moved me to investigate such authorities as I could find on the subject, and finding the doctor's claim abundantly substantiated by all writers examined except Coe, who says: "I cannot agree with most writers on ovarian pathology that fibroid tumors are so exceedingly rare as they represent, since I have an opportunity to examine two or three undoubted specimens every year, and see reports of many more in current literature."

I have concluded it would be proper to report my case, together with some remarks on the method of overcoming some of the disadvantages incident to performing laparotomies in country practice.

Patient, Miss R. B., aged 45. Family history, good. Health has always been good. Menstruation regular and normal.

Four years ago she first discovered a small tumor in right iliac region. After two years the body had attained to the size of a large orange, when a physician was consulted, without relief. She then drifted into the hands of a quack who subjected her to a process of violent rubbing, when the tumor took on a more rapid growth. The patient first presented herself at my office March 25, last, when a large tumor could be seen and felt rising out of pelvis and occupying the entire right side of abdominal cavity, as high as the liver, and at times occasioned considerable difficulty of repiration. The abdominal walls were thin, admitting of satisfactory manipulation. The tumor was nearly the size of a man's head, regular in outline, smooth, movable and almost of stony hardness except at a single point, at upper and inner side a distinct fluctuation could be made out. Diagnosis, a fibro-cystic, pedunculated tumor of probable ovarian origin. A week later the patient was seen by my friend Dr. F. Reider, who concurred in the diagnosis, and also with me recommended removal, to which the patient did not consent for a fortnight, when preparations for a modern antiseptic operation were begun, first by medicating and preparing the patient. Instruments and dressings were scrupulously prepared and packed away. On the day prior to the operation the room to be used was put in order under my personal supervision, every vestige of furniture was ordered removed, the floors, windows and doors scrubbed with hot water and soap, the plastered ceiling and walls were whitewashed, and the room closed until within an hour of the time set for the operation when the whole was again gone over, this time with hot carbolized water. I will not detail the method of further preparations of the patient, assistants, etc. The operation was speedily executed. The size of the tumor required a lengthy incision, extending from the pubis to an inch above the umbilicus. The hand was now introduced and swept around the entire mass; no adhesions were encountered. The tumor was found to be attached by a thick but well formed pedicle to the right ovary; the central part of the neck was first tied in sections with twisted silk, and to further guard against the unpleasant accident reported by Dr. Bock, that of having a ligature slip and a disagreeable hemorrhage to take care of, we passed a strong catgut below the silk which was also tightly drawn, all of which securely arrested circulation. The stump was lightly cauterized and dropped back. First the peritoneum and then the abdominal walls were hermetically closed, the wound dressed and the patient put to bed with a good pulse. She soon rallied from the chloroform anesthesia and was never sick at stomach for a moment. She made a rapid and uneventful recovery. Temperature only rose above 99.5 one time, then only to 100.3 for a few hours; the dressing and stitches were removed on the eleventh day perfectly sweet, without the slightest evidence of suppuration. At this date, one month after the operation, the patient is attending to regular household duties and nursing an invalid mother. I mention these facts to strengthen the claim that it is possible to do antiseptic surgery outside of hospitals and often under seemingly great disadvantages if proper care is exercised. I desire to state that I was ably assisted by several medical gentlemen of this city. The tumor removed as above stated was almost of a stony hardness. The cyst found on one side was opened and about eight ounces of amber-colored fluid escaped, after which the fibroma weighed three and three-fourths pounds.

P. L. KABLER, M.D.

Hannibal, Mo., May 29, 1894.

Ulceration of the Lower Part of the Colon.

Editor MEDICAL REVIEW.—In your issue of March 17, 1894, I notice a communication from Dr. F. Hutchins in regard to ulceration of the lower part of the colon.

I have had under my care three or four cases in which the same diagnosis was made and as the treatment in those cases was successful I would advise Dr. Hutchins to try the same.

Remembering that there was principally two conditions requiring treatment—one an abnormal secretion of mucous and one a local ulceration—there were two

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things indicated. One a dissolving of and washing away of the mucous, and one the application of antiputrious and antiseptic medicine.

The first was effected through Carlsbader sprudel salt, given in the dose of a teaspoonful of the salt in a tumblerful of hot water before breakfast and on retiring for the night.

In order to meet the second indication I gave the patient capsules of the following:

℞ Salol, - - - - - gram. 10.0.
Naphthaline, - - - " 2.0.
M. et in capsul. No. xxx dis.

To prevent the capsules from dissolving before they reached as near as possible the seat of the ulceration they were made double, *i. e.*, a smaller capsule inside of a larger one and a coating of sugar paste round the smaller.

Four of these capsules were given daily, one at a time. The patient was put on the usual diet for dyspeptics and a teaspoonful of equal parts elix. bism. and pepsine and tr. gentian co. given after each meal.

For the first two days the capsules were passed whole, only the outer covering digested, but on the third day two were entirely absorbed and after that all of them. The discharge of mucous also diminished on the fourth day. The patients kept up the treatment with decreasing doses for four months and were then entirely well.

If Dr. Hutchins should try this treatment I hope he will report the result through your esteemed journal.

FORGNY ANDERSON, M.D.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, June 2, 1894, F. W. WESSELER, M.D., President pro tempore, in the chair.

* * *

In the absence of a prepared scientific programme, general topics of interest were discussed.

* * *

DR. FAIRBROTHER called attention to the carelessness exhibited by a great many practitioners—especially those in the country—in examining patients. The danger which often results from this negligent and superficial method of making diagnoses was illustrated by two cases which had recently occurred in his practice.

The one was a case of malignant disease of the uterus, in a patient 42 years old. Her trouble began about one year ago, and was first manifested by a uterine hemorrhage, followed by a gradually progressing emaciation, cachexia, abdominal pain and increasing weakness. In the course of the past year she has consulted a number of physicians, who have at various times diagnosticated her trouble as due to the period of menopause, to malaria, or to "la grippe;" but in no instance was a vaginal examination made. At present the disease is too far progressed to be amenable to surgical treatment. It has completely destroyed the cervix and has invaded the anterior vaginal wall as far down as the meatus urinarius.

The other case was one of ascites, of an unmarried woman, who had been treated for months. A diagnosis of intestinal flatus was made, but it was arrived at without a physical examination, owing to a fear on the part of the physician of wounding the feelings of modesty of his patient.

Of course, nobody is infallible, but such gross carelessness must be considered as almost criminal. There is a tendency among many physicians to accuse the public of a lack of appreciation of our profession. We should remember that the public is often obliged to bear burdens unflinchingly, and to pay bills for incompetent and unsuccessful services rendered.

DR. WITHERSPOON cited a case of "Marginal Rectal Cancer," which had come under his observation while he was practicing in Montana. The patient had been operated upon in Cincinnati, at which time a resection of the rectum was done, and the margin of the mucous membrane stitched to the skin. The operation was followed by a generally improved condition, but the trouble soon recurred, and the patient's health failed very rapidly. When seen by the speaker, he was unable to walk farther than a half square. The rectum was so extensively involved by the infiltration, that its lumen was almost occluded and stools could be passed only with difficulty. The tissues were curretted down to a firm base, with a large, sharp, spoon currette, and injections of pyoktanin solution of the consistency of ink, used twice daily. In addition, the patient daily injected two grains of the drug himself, and used rectal suppositories. Last December the old induration had largely disappeared and there had been no recurrence of the trouble.

The speaker had used pyoktanin with good results in a number of cases of marginal cancerous growths of the epithelial variety. Its effects has been nil in sarcomatous growths. The reports of this mode of treatment vary greatly, it being praised by some and condemned by others.

Another method of combatting the progress of cancerous growths, is the injection into the tissues of about thirty minims of a ten per cent solution of salicylic acid in alcohol. The reports indicate that this form of treatment is causing the cancerous growths to disappear rapidly, cicatrization takes place, pain disappears, and the patient becomes stronger.

DR. BARKLAY called attention to the efficacy of pyoktanin as an anti-suppurative, particularly in reference to suppurative diseases of the midle ear. He had demonstrated its value by checking suppuration in cases of

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fifteen or twenty years' standing. In one case of forty years' standing, the patient was cured after having been seen by the speaker eight times. In this case there had been deafness, vertigo, loss of memory, headache, etc. In two other cases, relatives of the speaker, aged respectively six and eight months, a complete cure followed one instillation of a 1 to 1000 pyoktanin solution. These cases resisted all treatment with boracic acid, peroxide of hydrogen, bi-chloride of mercury and carbolic solutions.

The speaker published in the New York *Medical Journal* or *Record*, the first case in which cures resulted from this form of treatment. Later on nine or ten cases were published in a local journal.

Dr. J. W. Smith cited a case of "Circoid Aneurism" upon which he had operated, and in which a cure had resulted in two weeks. This case had been diagnosticated as an aneurism of the right common carotid. A very grave prognosis had been given, and the operation for its removal had been suggested merely as a last resort; to prolong life if possible.

Dr. Johnston suggested that operations are often performed for so-called cancer, in which the trouble is not of this nature. Owing to the tendency of recurrence, the operation is often useless; sometimes only prolonging life, and sometimes justifiable as a means of abating a suppurative or purulent process.

Dr. A. H. Meisenbach referring to the subject of malignant growths, said that although we are still meeting with failures in the treatment of malignant disease, great advances have been made in this direction in late years and this progress is attributable to the more exact methods of diagnosis, and to the fact that a diagnosis is now made in the earlier stages of the trouble, at least by careful diagnosticians. This advancement is largely due to the perfection of the microscope. Microscopy can not be regarded as an exact science to-day, but by its aid we have been able to study physiological and pathological processes more accurately. We are not able to make an exact diagnosis in each case, nor can we judge of the true character of a growth by one cell. We have learned to classify new growths according to the peculiar groupings of cells, their associations and surroundings, and by the forms which they effect in connection with their fellows.

The most generally accepted theory at present, as to the cause of this peculiar formation of cancerous new growths, is the theory of misplaced cells. For some, as yet, unexplained reason, there is a small aggregation of cells entirely foreign to the character of cells composing the tissue in which they are found. They are stimulated into activity by some irritation, proliferate and the cancerous infiltration is the result. This explanation of cancerous formation was apparently sustained by a tumor of the testicle, presented to the society by the speaker some time ago. It proved to be a malignant adysoma containing cartilaginous cells, a class of tissue entirely foreign to the locality in which it was found.

If a malignant growth is detected in its earliest stages and the entire growth together with the lymphatics tributary to it is removed, the patient has a good chance to recover. This is particularly true in cancer of the uterus, as oftentimes the neighboring organs have not become infiltrated, and by removing the uterus the entire focus of disease is exterminated.

Dr. Fairbrother.—I cannot imagine anything, except death, that presents so sad a spectacle as the disease known as cancer. It sits, like a nightmare, on the bosom of humanity; like the raven in the poem, it sits above the door and casts its shadow upon the life of its victim for overmore. It takes up its abode in the human organism and bids defiance to opposition; whether it attacks the esophagus and commands the sufferer to look forward to the grave through months of pain and starvation; or upon the uterus, where it rapidly saps the foundation of life; or upon the breasts, where it more slowly, but just as surely, fulfils its fatal mission; the end is always the same. The paths of cancer lead but to the grave.

Dr. J. S. B. Alleyne thought that ultimately some means would be discovered by which cancer could be more successfully treated. This thought is suggested by the improvement made in the treatment of an allied trouble; namely, pathisis pulmonalis. The speaker recalled the various remedies suggested and generally used at various times, dwelling particularly upon strychnia, a remedy, the administration of which is based upon the theory of nerve implication in this disease. This remedy, together with creosote as an anti-bacillary agent and the proper rest and diet of the individual, constitutes a very much improved form of treatment as compared with that of former years; one that should result in fifty per cent of recoveries, according to some authorities, if judiciously carried out.

Dr. Fairbrother recalled several cases of strychnine habit resulting from the continued use of the drug. It is often acquired after the patient has undergone a course of treatment for inebriety. One case in particular, which the speaker recalled, was recently seen by him at the City Hospital. The patient was in the habit of taking two grains at a dose, and had acquired the habit while having charge of a Keeley Institute.

Dr. Johnston referred to the teachings of 1836 and 1837, according to which phthisis was attributed to dust particles inhaled by scissor grinders and persons engaged in similar pursuits. We have found no remedy which will kill the tubercle bacillus without injuring our patient, and the value of alcohol as a therapeutic agent in this trouble is very limited, a fact which is demonstrated by the number of phthisical victims among chronic alcoholics.

Dr. J. R. Lemen called attention to the difference between miner's, miller's and scissor grinder's "phthisis," and true tuberculosis. The former is a fibrous degeneration, resulting from the continual mechanical irritation of dust particles in the bronchial tubes and vesicles, while the latter is the result of the implantation of the

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bacillus upon lung tissue, when this is a favorable soil for its development.

Phthisis cannot be regarded as a nervous disease, but strychnia is an excellent drug in its treatment, as it is the best general tonic that we have, furthering metabolism and thereby increasing tissue resistance. For this same reason strychnia is an excellent remedy in cancerous troubles.

Cancer is doubtless more frequent to-day than it was in former years, which fact the speaker was inclined to attribute to our more sedentary habits and the consequent defective tissue metamorphosis.

Dr. A. R Kieffer said that we must all admit that the tubercle bacillus is the causative agent of true tuberculosis Everybody inhales it everywhere; but a favorable soil is the requisite for its development. The most effective agent to prevent this development, is a normal state of the resisting powers of the body; and in this sense strychnia is of value as it enables the system to better ward off the inroads of the disease. This also, is the object in administering creosote, but the speaker had no good results from its use.

ABSTRACTS

MEDICINE.

Morgagni and the Anatomical Conception.– Rudolph Virchow, in an address delivered before the Eleventh International Medical Congress at Rome (*Medical Age*), says:

The history of medicine, though always related in a manner to the progress of civilization in general, yet presents to the student a number of noteworthy peculiarities.

The first is an unbroken development of about twenty five centuries. From Hippocrates to the present practitioners of medicine, the consciousness of this unbroken unity has never disappeared. While religions were changing, and systems of law were following one upon the other, the medical tradition was preserved. No other science has ever been so firmly established in its very beginnings, none is in reality so old as medicine.

So long a persistence of doctrine would scarcely have been possible if the nature of the object with which medicine concerns itself did not possess an integral element surviving all mutations of time and place, and which confronts each new generation with the same problem for investigation. This problem is disease. The special diseases are indeed dissimilar, according to time and place, but the question as to the true character of disease in general remains ever the same; so also, the task of the physician—to heal—never ceases, no matter where his effort is exerted, whether in Italy or Russia, in Europe or in America.

It is scarcely necessary to state that throughout antiquity, but one opportunity, and that for a brief period, was afforded the student to investigate the anatomy of the human subject. That period followed the death of Alexander, when the mastery of Egypt reverted to the Ptolemies. After this dynasty no physician of antiquity received the same facilities for research. Thus Galen himself could recommend nothing better than that medical men make the most of their investigations with those animals which in his opinion were most nearly related to human beings—apes and swine. It is reasonable to suppose that the sacrifice of animals, whose selection presupposed a normal condition of the animals and their organs, prompted many a comparative observation, extending to pathology as well. Even the beasts of slaughter must have often furnished to careful observers material for comparison and reflection which could subsequently be applied to conditions of human disease, and beyond all doubt Hippocrates knew and utilized many facts which were securely established for the first time centuries later. It is obvious, however, that both anatomy and physiology must have continued in a precarious state so long as investigations on the human body had not yet supplied definite proof of the special relations prevailing between the individual parts.

The real obstacle was interposed by the church. The natural prejudice of the people against the dissection of the human corpse was strengthened by the ecclesiastical prohibition. Moreover, the need of dissection was not felt by those to whom Galen's infallibility was a matter of conviction. Why perform dissection when the structure of the body was known? By this species of argument that peculiar dilemma was brought about which resulted in retarding for two centuries the development of anatomy. To ascertain whether Galen was in error, dissection was indispensable—on this point science was peremptory; but the church declared that Galen had erred, hence it was not necessary to resort to such reprehensible measures.

In this quandary the highest authority in the church could alone offer help, and the church finally decided in favor of science. Rome itself never lacked physicians who felt it their duty to bring about the recognition of truth in science, and not a few of the papal body physicians up to our own time have belonged to the most energetic lerders in this combat. Thus, at the beginning of the fourteenth century, Mondino, of Bologna, obtained permission to dissect and demonstrate to his students several human corpses. After the path had once been opened, it gradually became accessible to others. Thus the Italian universities enjoyed the profit of a valuable expansion in their medical curriculum at a time when the universities of most of the other countries were not so favored, and Italy possessed a body of anatomists when elsewhere such a specialty was not yet known. Then began the procession of medical students from northern lands to the Italian universities, particularly to Bologna and Padua. Occasionally, too, came

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an accomplished man seeking here to perfect his knowledge. Among the latter was that young *savant* who was destined by his own systematic researches to destroy forever the faith in Galen's infallibility, and be first to establish incontrovertibly, at least in the domain of anatomy, the rightfulness of the autopsy. Andreas Vesalius was born of a Low-German family in Belgium, and educated in France. But not till he became a professor in Padua (1537–1544) did he acquire the reputation which rendered it possible for him to become the true reformer of our knowledge and instruction respecting the foundations of medicine, and to conquer for the anatomy of all future times the rank of a fundamental science. Vesalius was one of those rare men, possessed of universal genius, such as history but seldom produces: Just as all the civilized nations of which Europe was then composed could see and reverence a kinsman in him, so likewise was his victory in the domain of anatomy recognized as applying of right to all other branches of medicine.

And yet it is not just to term him the Reformer of Medicine, as has been done. His anatomy, as such, was not capable of overcoming and dispelling the humoral pathology which then prevailed. Those very organs which were so familiar in respect to location, conjunction and equipment, were still persistently conceived of as composed of four humors! To transform this theory a direct charge was necessary upon the center of the dogmatists' line of battle. This was done with all the impetuosity of a conquerer by a German who at heart despised anatomy and employed in its place the Arabian tradition, though in greatly modified form—Theophrastus Paracelsus, a contemporary of Vesalius. Demonstrating the chemical untenability of the four humors, and their inadmissibility as elementary substances, he succeeded in building up, with the aid of Arabian admixtures, a species of counter-theory, half naturalistic, half spiritualistic, which in the hands of his followers unfortunately assumed a character in which the mystical predominated.

It is difficult to say what might have been begotten by this school of medicine, which was stripped indeed of all dogmatism but yet given over as prey to the most arbitrary subjective fancies. Salvation, however, was near at hand. At the beginning of the seventeenth century William Harvey established the theory of the circulation of the blood, and thus laid the cornerstone of a new science which soon rose into glorious companionship by the side of anatomy—viz., Physiology. When a young man, Harvey had also gone to Padua, primarily for the purpose of strengthening himself in anatomy. Under the guidance of Fabricius ab Aquapendente he had studied the arrangement of the blood-vessels and of the heart, and so indirectly, in lieu of the blood he placed as the "noblest juice" of the four cardinal humors the real *humor cardinalis*, or blood.

His theory of the circulation exhibited one deficiency —a serious one: he was unable to prove how the blood passes from the arteries into the veins. To have furnished this proof by direct observation was again the achievement of an Italian investigator. The celebrated teacher at the University of Bologna, Maricho Malpighi, who applied the then recent invention of the microscope to the observation of the processes occurring in the living organism, discovered the capillary circulation. Thus was in a measure completed the great edifice, to whose erection Vesalius and Harvey and countless other *savants* had devoted their powers. Thus also was achieved the transformation of the humoral pathology into a hemato-pathology, and a trend imparted to research, for whose modification and elaboration both of the succeeding centuries have labored, and which has not yet accomplished its final destiny.

Strangely enough, none of the investigators named ever reached the point of applying to pathology the results yielded by pure anatomy and by its perfection into experimental physiology. No one can constantly deal with anatomy and yet fail to observe the modifications produced by disease in the living organism. In truth, we know that from Eustachi to Vesalius, pathologico-anatomical deviations from the normal have attracted the attention of anatomists; but neither they nor their immediate successors reported these deviations with such care as to render possible the establishment of an actual science of pathology. On the contrary, the ancient conception that disease was something general became all the more firmly rooted, as the conviction gained ground that one liquid circulating throughout the body was the bearer and the center of all substantial modifications. Even the comprehensive studies of the great teacher of Leyden, Hermann Boerhaave, whose pupils soon filled all the professors' chairs of Middle Europe, were not capable of overcoming the prevalence of this conception. They succeeded only in directing to the physician's attention the importance of the local process, but they finally culminated in referring back these local processes to local disturbances of circulation. Thus the circulation always remained in the foreground of pathological study, and the Paracelsian notion respecting the *vitra propria* of the organs was cast aside as a spiritualistic aberration.

Morgagni was then in his youth His star first led him into an environment which was less favorable to pathological than to anatomical studies Let us dwell upon this fact for a moment. When in 1698 Morgagni, then scarcely sixteen years old, left the school of his native city Forli for the University of Bologna, he found himself translated, so to speak, into an anatomical atmosphere. Everyone was yet familiar with the discoveries made by Malpighi, Aranzi, Varoli. He soon entered into most intimate relations with Valsalva, participated in the anatomical investigations of his master, and was by the latter initiated into pathology and medical practice. As early as 1701 he gained his laurels in medicine and philosophy, and a few years later the presiding office of the *Academia Inquietorum* which was later converted into the *Institute del Scienze*.

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In 1706 appeared his first notable independent performance—the *Adversaria Anatomica Prima*—which was gradually followed by four further volumes. His reputation grew so rapidly that the Venetian Republic in 1711 called him to the chair in Padua which had been previously occupied by Vesalius, and here he was so active in his tutorial work that the number of his pupils could not be accommodated within the narrow space of his lecture hall.

Despite the international character of this Congress, I may venture to recall the extent to which Germany was represented among these pupils, and the peculiar intimacy which arose between the German pupils and the great master.

When Giambatista Morgagni closed his eyes forever on the 6th of December, 1771, at the ripe age of 88, he left to the world as the fruit of a long life of labor devoted to science, the five books entitled *De Sedibus et Causis Morborum*. The new science which he summoned into life was not christened with the name which it afterward received: Pathological Anatomy. But all were aware that these books contained the sum of all actual knowledge respecting the material modifications wrought by disease, acquired up to that time. The new observations of Valsalva and the far more numerous data gathered by Morgagni himself were here united with all the countless reports scattered through the particular volumes, the academic writings and the periodical contributions of all the Occidental countries. Morgagni had collected them all with anxious fidelity. Unlike the frequently uncritical and unreliable collections of former times, every single report was here controlled and traced back to its source, and then carefully reviewed, not simply for the purpose of establishing the anatomical data, but also in order to analyze and establish their relations to clinical processes and the principles by which diagnosis and prognosis should be governed. It was by no means a mere compilation and work of reference, like those of his predecessors Schenk von Grafenberg and Boneto; it was rather a methodological handbook. Furthermore, the purpose of the book was not alone the promotion of anatomy as a pure science, but in far greater measure its development into a fundamental aid to practical medicine. This enables us to understand why after Morgagni's time the clinic first assumed its true significance. In London and in Paris, in Vienna and in Berlin, the full consequences have been deduced from his preparatory labors. Hence we may say that by and through the labors of Morgagni was the dogmatism of the ancient school completely broken for the first time, and that the New Medicine dates its beginning from him.

Up to the time of Morgagni, considerations respecting the nature of the disease—or, as they preferred to term it, the essence or substance of the disease—stood in the foreground of every general or casuistic contemplation of disease or the diseased. They investigated the morbid processes, established the symptoms, sought to ascertain the modifications in the organism, gathered them all together into one disease tableau, and applied a definite name to the malady. Following this process of investigation, the majority of cases failed to reveal what was in reality the nature or essence of the disease. They then sought to obtain light theoretically and to formulate the result. In this endeavor, anatomical, clinical and etiological points of view were in turn selected; and yet the disease names chosen in accord with these varying points of view were treated as coordinate designations. If the local symptoms did not suffice, refuge was sought in some hypothesis, the most arbitrary assumptions being permitted and even looked upon as scientific. What did they leave undone in seeking to fathom the mystery of fever and inflammation! Is there essential fever? Is inflammation an integral concept? How various the answers given to these queries in the course of time!

Morgagni, who sought to study disease as an anatomist, did not regard the determination of its essence as the first task of the investigator. The title of his great work begins with the words: "De sedibus morborum." In truth, this accords with the proper succession of investigations which it behooves the physician in general and the pathological anatomist in particular to perform in individual cases. I am wont to condense all this in the question which I address to my pupils: Ubi est morbus? Where is the disease? Thus the scientific path of investigation and the assumption of local process are indicated beforehand. For it is self-evident that such a question would be absurd if there were real universal diseases.

To discuss before so enlightened an audience the question of universal disease would be an anachronism. If anyone present should still be harboring in some hidden fold of his gray matter the memory of universal diseases, he will soon find, on a little reflection, that a considerable—as a rule, a predominating—part of healthy life prevails in every sick organism, and that the morbid or even the dead embraces but a fraction of the body. With one who does not comprehend this, it is useless to talk of pathology in the sense of a natural science. It was the mission of pathological anatomy to demonstrate this conviction *ad oculos:* There is no morbid body, diseased in all its parts. Such is the meaning of the words "Sedes morbi," which embody the quintescence of Morgagni's experience.

But pathological anatomy is incapable of adducing a "sedes" for each disease. In the great domain of nervous diseases, and even in that of the poisons, there are numerous cases in which the anatomical investigation remains insufficient. Not because there are no "sedes morbi" in such instances, but rather for the reason that the disease has produced no visible modifications in the invaded parts. Anatomy, however, deals only with the visible. The findings of the pathological anatomist are not, therefore, equivalent to the conception of a seat for the disease. On the contrary, supported by our physiological and chemical knowledge, we deem ourselves

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warranted in speaking of a seat for disease in cases presenting no visible modifications.

This is what I term *the anatomical idea in medicine.* I maintain that no physician is capable of forming an orderly conception of a morbid process if he be unable to refer to it a definite place in the organism. "Ubi est morbus?" is the question with which the search of the living patient as well as of the dead body must begin; but if this investigation yields no actual result, it is far from ended: then begins the task of ascertaining by deduction from the totality of previous symptoms, particularly from the etiological facts, where the disease is seated. In this view, the anatomical idea reaches far beyond the domain of pathological anatomy. It is no longer bound to the visible modifications rendered perceptible by the knife of the anatomist. It is rather joined to the vital function, and accordingly comprises a large fraction of what is now considered the field of the clinician.

This division of domain was not yet completed in Morgagni's time, and though he was more of an anatomist than a clinician, many a section of his great work is devoted chiefly to the clinic. This explains why so many of his followers have belonged to the clinical schools, and why he exerted so decisive an influence on the method of examining the sick.

Pharmacology as well as surgery has grown every year more localized—so much so that old Morgagni, if he were to arise among us, would probably be horrified by a method which is so in conflict with ancient traditions. And yet we should perhaps succeed in gaining absolution from him by convincing him that it is his own thought which celebrates such triumphs—a thought which he perhaps did not clearly elaborate, and whose final consequences he did not deduce, but which for the first time issued from his writings in all its power—the thought of "sedes morborum," or, as I have termed it, the anatomical idea.

It is this idea which dominates our present physiology and pathology. Trace it back, if you will, into the past, or replace it with another formula, it will assuredly remain the thought of the future. And this future will place the beginning of its epoch in the days of Morgagni. His be the honor!

Experimental and Clinical Contributions to the Pathogenesis of Albuminuria.—

1. The albumin of the blood, in its true physiological state, never passes into the urine or in any other secretion; hence a truly physiological albuminuria, *i.e.*, one occurring in a state of complete and typical health, does not and can not exist.

2 The fundamental biologico chemical condition under which the albumin of the blood is necessarily emitted in the urine depends upon a dializable and diffusible property, while in the true physiological state the chemico-molecular constitution of the albumin is such that it is not dializable, for the very reason that it is not intended to be eliminated from the organism, its physiological function being altogether an internal or intra-organic one.

3. Whenever for any reason any quantity whatever of dializable albumin appears within the blood, albuminuria must occur, for this especial chemico-molecular condition of the albumin suffices to render it unassimilable; in other words, it becomes a toxalbumin, and, therefore, it is destined to be eliminated through those emunctories of the organism which preside to the elimination of the non volatile heterogenous principles (urine, bile, etc.) A scientific demonstration by means of especial chemical reactions of the elementary composition of this peculiar dializable albumin, or toxalbumin; is as yet beyond the resources of science. But in biological questions we find this ignorance at every step, because the instability of living organic matter and its easy changeability in its relations with its complex ascending and retrogressive biological functions can hardly be discovered and revealed by the reagents of the laboratory, hence the more or less normal chemico-molecular constitution of the albuminoids can only be inferred from their more or less perfect and complete biological functions, and not by chemical reactions, which are as yet very limited and entirely unable to differentiate such variations. This truth holds good for all living immediate principles, and completes the definition of the great fundamental character which separates living from brute matter, that is to say, the aptitude for crystallization possessed by the latter.

4. The experimental production or albuminuria by means of egg-albumin, as well as many cases of spontaneous albuminuria prove, as I asserted as early as 1861, that there is no need of a preceding epithelial alteration for the advent of an albuminuric elimination through the urine, because this elimination is a normal function of the kidneys and takes place whenever the albumin is dializable, or a toxalbumin, in the same way that elimination constantly takes place of all sorts of toxic inassimilable principles, whether formed within the organism or introduced from outside.

5. Dializable albumin may be found in the blood:

a. Following an excessive ingestion of albuminoid aliments which have not been able to assume the non-dializable type of chemico molecular constitution, owing to their quantity being in excess of the powers of functional activity possessed by all the organs or apparatuses destined to accomplish the assimilation of the molecules of albumin introduced through alimentation (skin, liver, etc.)

b. Even when the amount of alimentary albuminoids is not increased, one of the above mentioned functions may primarily be weakened or suppressed through some pathogenic cause, in which case the balance is also disturbed without any increase of the normal amount of albuminoids, since a variable quantity of these albuminoids reaches the blood without having been able to arrive at the necessary degree of elaboration which should have rendered them assimilable, and albuminuria consequently supervenes. These are the bases of

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the physiology of the albuminoids in the bio-chemical mechanism of nutrition; the only reliable guide of pathology.

c. Following the experimental subcutaneous injection of egg-albumin, or of any other solution of albuminous substances which are dializable (in the animal).

6. In all these cases the dializable albumin must necessarily be eliminated, as an act of purification of the organism, and hence in the majority of spontaneous albuminurias, whether in acute or chronic disorders, it constitutes a phenomenon of organic elimination or purification, and it is to be borne in mind, as I have repeat edly shown since 1861, that it is a great error (which still lingers in medical practice) to consider the appearance of albumin as a sign of the development of a nephritis.

7. In the animals we constantly find the appearance of albumino cholia as a result of hypodermic injections of egg albumin practiced for a long time.

8. In man, also, in a pathological state, we constantly observe a double category of albuminurias, according as they are hematogenous or nephrogenous, whenever we are able to make an autopsy. In hematogenous (discrasic) albuminurias there constantly exists an albumino-cholia, while in the albuminurias whose pathogenic mechanism is exclusively renal there is no trace of albumin in the bile. As a matter of fact, it is not always easy to verify this subdivision, because, even in the exclusively nephrogenous albuminurias, the duration is so long and the general discrasic consequences so constant after the disease has lasted a long time, that the distrophy of the albuminoids is an inevitable result, like the occurrence of serous infiltrations, and in such cases the analysis of the bile will reveal traces of albumin, while in primarily hematogenous or discrasic albuminurias, the albumino cholia occasionally reaches the amount of 0.50 per cent.

9. The anasarca which occurs, even from the earliest periods of Bright's disease can not be attributed to the disalbuminization of the blood, and to a consecutive hydremia, because at the bedside we daily encounter chloro-anemic states of even greater gravity—that is to say, cases of quotidian albuminous losses which last for months and months without ever giving rise to serous infiltrations, which, on the contrary, must be deemed to be an effect of the changed chemico-molecular constitution of the albuminoids of the blood, through which the necessary equilibrium between the circulating blood and the cellular ambient is lost, an equilibrium which is an indispensable condition if the liquid elements of the blood are to be prevented from obeying the laws of osmosis during the physiological state, and producing anasarca.

10. All the experimental anasarcas which may be produced in animals are divided into two categories according as they are brought about by means of agents which act exclusively by irritating the kidneys (cantharidine, etc.), or with agents which, while still irritating the kidneys, produce a profound alteration in the constitution of the blood (salts of mercury, etc.) In the first class we have severe renal injury and very little albuminuria. In the second class, on the other hand, we have an abundant albuminuria and histological alterations which are comparatively slight. In this complete lack of relation between the degree of albuminuria and the degree of histological renal injury, we find the most peremptory demonstration of the truth of the hematogenous pathogenesis, and of the erroneousness of the systematic concept of the nephrogenous pathogenesis of many albuminurias, and especially of the true albuminuria of Bright. And it is greatly to be wondered at that all the experimenters who have endeavored, by means of experimental pathology, to prove the nephrogenous mechanism of albuminuria should have entirely omitted the study of this relation, which, after all, is a most evident demonstration of the insufficiency, not to say the error, of the nephrogenous pathogenesis of Bright's disease and of many other albuminurias.

11. The experimental albuminuria obtained by means of repeated injections of egg albumin reproduces the whole clinical picture of true Bright's disease; that is to say:

a. Albuminuria occurring after a few hours, and then increasing.

b. A discrasic state of the blood, and an augmentation of the quantity of albumin which is eliminated in the twenty four hours, bearing a direct ratio to the quantity of egg-albumin injected.

c. Serous infiltrations in the subcutaneous cellular tissue (anasarca).

d. Chronic nephritis with all its consequences.

e. An alteration of the ocular fundus which can be observed during life, and verified by histological examination; possessing the character of a choroido-retinitis.

12. Upon these experimental and clinical bases, which I have warmly advanced for the last 40 yesrs, we must build up the real rational treatment of Bright's disease, renouncing all the unscientific and absurd prescriptions by means of which some have endeavored to lessen or prevent the loss of albumin by means of astringents on one side, and to repair on the other, the daily loss of albumin by forcing the organism (an utter impossibility) to assimilate an increased amount of alimentary albuminoids. The rational treatment of Bright's disease can only give a hope of success when applied rigorously and early, by means of the great modifiers of the distrophies of material exchange, that is to say: milk diet, a methodical excitation of the cutaneous functions, an increase in the quantity of oxygen inspired, the iodide of sodium, the phosphate of sodium, etc.—Mariani Semmola, in *Am. Medico-Surg. Bulletin.*

A Hospital for Consumptives is to erected in Philadelphia, to be under the care of the Bureau of Charities and Corrections.

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NOTES AND ITEMS

The Successor to Sir Andrew Clarke as president of the Royal College of Physicians is Professor James Russell Reynolds.

Changes in Professorships Abroad.—Dr. Malassez has been nominated to succeed Professor Charcott in the chair of pathological anatomy.

Professor Czerny has been elected to succeed the late Professor Billroth.

Primitive Comfort for Babies.—The hygienic treatment to which Dorothy Drew, Mr. Gladstone's little grand daughter, is subjected, extends so far that she always goes barefoot, indoors or out, except in very muddy or bitterly cold weather. Her dress and fare are of the simplest, and she is one of the healthiest, happiest and most irrepressible of children.—Dr. C. E. Page, on "Summer Comfort for Babies."

Spanish Prizes.—The Spanish Royal Academy of Medicine offers its annual prize for the best essay on the following subject: "Clinical and Therapeutical Study of Chronic Affections of the Intestine." The A. E. G. Cano Prize will be awarded for the best essay on "Infectious Endocarditis." Essays may be written in Spanish, Portuguese, French, Italian, German, or English, and must be sent to the Secretary of the Academy, 22 Montera, Madric, before September 15, 1894.

The Bandage in Hernia.—As a purely mechanical means of support in infantile or juvenile hernia, a bandage with the aid of a soft muslin pad is of more value as a therapeutic measure of relief and cure, when no complications are present, than any truss that ever was invented or operation devised. In pendulous flabby abdomens, which permit of a constant strain on the mesenteric ligaments, or those produced by the gravid uterus, kidney or liver, great relief is experienced by the employment of the broad bandage or girth.—Thos. H. Manley, M.D, in *Medical Summary*, June 1, 1894

℞ Specific for vomiting in Pregnancy.

Chloroform 3ss
Elix Nutrans 3ii
M. Sig—
Two teaspoonsful in hot water every hour or two.

VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

Kangaroos are known to breed in this country, and although certain gestative phenomena are still shrouded in obscurity, *e. g*, the mode of transference of the immature embryo to the marsupial sac, which, according to Owen, occurs in macropus major about thirty-eight days after impregnation, yet the times of "heat" have been recognized and copulation witnessed, but only lately has any estral discharge been remarked. It must be remembered that in these creatures one orifice serves for the exit of feces, urine and generative products (in marsupialia "there is even a common sphincter for the anus and uro-genital orifice," Gegenbaur, p. 622), and that this, when closed, conceals in the cloaca the several corresponding apertures opening thereinto. Probably, therefore, whatever exudation attends the epochs of sexual excitement, if any there be, is hidden in the cloaca, unless indeed it should chance to be abundant, and that is not anticipated; neither likewise is it to be expected that a flux would partake of a distinctly sanguineous character, unless in so feeble and insignificant a degree as to be scarcely recognizable.

The most one appears warranted in expecting in these and allied lowly mammalia, is a mucus flux, perhaps feebly stained, with some increased odorousness, which, as in the higher mammals, is highly attractive and exciting to the males.

I have gratefully to acknowledge my indebtedness for information respecting the kangaroo at the zoological gardens to Mr. Bartlett, the able superintendent, who informs me that the Society's kangaroos display sexual excitement in September (which, he believes, corresponds in the southern hemisphere to our spring time), and also in our spring month of April, the returning warmth of the season apparently stimulating them.

Until recently, neither Mr. Bartlett nor the keeper of the kangaroos had remarked any exudation or discharge from the cloacal orifice of the females at the time of "heat" but, since attention has been directed to this point at my request, the keeper informs me that he has observed a "mattery, slimy" discharge, slightly tinged with a reddish color, at these times. He also informed

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me that lately, prolonged copulation in a young female kangaroo, which had never bred, caused hemorrhage, necessitating separation from the male. When impregnation has occurred, a close watch has been kept upon the females, in the hope of discovering the mode of transference of the embryo from the generative passages to the marsupium, but hitherto unsuccessfully. Mr. Bartlett tells me that something resembling blood and mucus has been seen to be conveyed by the female in her forepaws from the cloaca to the marsupium, in which it was supposed the embryo might be entangled; and the keeper says that they sometimes find "hollow fleshy things" in the pens (fetal envelopes) but I understand that no conclusive observations have yet been made. The issue of blood in question, small though it be, at what in these creatures is equivalent to the partu rient act, suggest obvious analogies.

Above these grades whose sexual systems and mode of reproduction are peculiar (aplacentalia) we come to a multitude of mammals of various kinds (placentalia) concerning some of which observation has taught us many interesting facts, though these are still too few to satisfy legitimate desire for information.

In all creatures there are periods of heat or sexual excitement when both males and females are apt for procreation. These periods are marked by systemic excitement, and by local phenomena of a more or less conspicuous character. Among the mammalia the times of heat display a seasonal periodicity, that is to say, they recur annually biennially, quarterly or at more frequent intervals, according as the conditions of existence or environments are favorable, or the reverse, and apparently in some degree according to the size of the creature, being for example, rare in the elephant; yet in every creature seasonal periodicity, at longer or shorter intervals, is observed, and, as Darwin and Laycock have shown, this periodicity always partakes of an hebdomodal character. It is always some greater or lesser multiple of a weekly period.

In the lower animals in a wild or feral state, the aptitude for procreation is seasonal, recurring mostly at times when food and warmth are plentiful. Under normal circumstance the earliest longing for sexual congress is promptly gratified; in the female conception ensues, gestation proceeds on its appointed course and until the genesial cycle has been completed by parturition the "rut" or "heat" with its attendant desire for copulation does not ordinarily occur. But impregnation failing from any cause (*e. g.* absence of the male at the appropriate season of sexual appetite), we may inquire, Do the symptoms of heat persist indefinitely? and if not, What period elapses before they are again exhibited? Observations of wild animals, both in a state of nature and during captivity (when the latter does not interfere with reproducing, and, still better, of domesticated animals, shows that after a definite period of quiescence estruation, or the "rut" invariably recurs at epochs which strictly conform to some multiple of weeks. In highly-bred and well-cared for domesticated animals estruation would probably be renewed periodically, until arrested by conception; for it is well known that domestication enormously enhances the capacity for reproduction, and renders that sustained which, under other conditions of environment, subsides until it is renewed by the seasonal awakening. It is probable that in the wild state, in the absence of the male the "heat" or stimulus to sexual desire would, after a few periodical manifestations, die away, grow cold and subside; remaining in abeyance until the return of the season with which it is primitively allied. This long rythmed periodicity may be termed "seasonal" since it appears to be primarily allied with or dependent upon seasonal changes, as has been abundantly demonstrated by Darwin, Herbert Spencer, Laycock and others. This seasonal periodicity of heat accounts for a corresponding periodicity in delivery for, as is well known, many wild females bring forth their young at mild and favorable seasons as spring and not at inclement or unfructuous times. This is generally so in our domesticated animals when art does not interfere with their natural instincts; and in truth this primitive seasonal condition of the exercise of the generative function underlies the process of reproduction even in the highest creatures. A trace of this seasonal influence is certainly still conspicuous in the greater tendency manifested by the human female to conceive at certain annual epochs; and it seems probable that this seasonal influence underlies the genesial function in all creatures and is a relic and a trace of a primitiveor primordial condition governing reproduction.

We shall see that not only does woman most frequently begin her menstrual life in the summer months, but she brings forth her offspring more frequently in the spring time than in other seasons, just as the lower animals do. Many years ago I concluded that every woman had a law peculiar to herself which governed the times of her bringing forth (and conceiving); that in truth she was more prone to bring forth at certain epochs than at others; and subsequent researches have not only abundantly confirmed this surmise, but established the accuracy of the forecast. The evidence is given in other lectures.

The influence of civilization and domestication in expanding the reproductive powers is conspicuous. And yet the generative system, as Mr. Darwin has ably and conclusively shown, is highly sensitive to changes in the environment of the individual. Seemingly, the higher mental endowment of advanced human beings carries with it not only an augmented capacity for the reproduction of their own species but also bestows a like advantage upon the creatures showing amenability to man's sway by flourishing under his dominion. Not alone does the human race increase, but man's flocks and herds multiply prodigiously. Would that proportional care were observed in the breeding and propagation of the human species as *e. g.*, is taken in that of animals of merely commercial value!

[TO BE CONTINUED.]

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"MARSHALL'S CONVERTIBLE" is the "Ideal" medicine and sundries carrier, according to all practitioners who have seen and have it in use. It is the invention of necessity by a doctor of varied experience with all kinds of roads, weather and modes of travel; hence, far superior in arrangement to any plan simply of a case-maker mechanic

CHICAGO, ILL., May 3, 1894.

DIOS CHEMICAL CO., St. Louis.--Since I tested the sample of Dioviburnia you sent me a year ago, I have prescribed it frequently, and find it of special value in Endometritis and Subinvolution.

ALFRED H. HIATT, M.D.

INFORMATION FREE.—If you wish to possess the most recent information on the subject of displacement of the womb and at the same time learn the very best and most modern method of treatment of this unfortunately too common ailment, you can secure this knowledge without any cost to yourself further than the slight trouble of mentioning this journal and sending your name and address to the Dr. McIntosh N. U. Supporter Co., 224½ South Ninth St., Philadelphia, Pa. It might be appropriate to mention in this connection that we have recently reduced the price of these famous Supporters exactly one-half.

THE REMEDY PAR EXCELLENCE.—In the April, 1894, number of the *Universal Medical Journal*, the companion publication to the *Annual of the Universal Medical Sciences*, a magazine covering the progress of every branch of medicine in all parts of the world, and both edited by Chas E. Sajous, M.D., Paris, France, we find the following notice of Antikamnia extracted from an article by Julian, which originally appeared in the North Carolina *Medical Journal:*

"The importance attached to this drug, I think, is due to its anodyne and analgesic power. and the celerity with which it acts. As an antipyretic in fevers, it acts more slowly than antipyrine, but it is not attended with depression of the cardiac system and cyanosis. Whenever a sedative and an analgesic together is indicated, this remedy meets the demand. In severe headaches it is the remedy *par excellence*."

CINCINNTI, O., April 19, 1894.

Dios Chemical Co., St. Louis.—I use Neurosine in my private hospital work and in all my experience it is the best combination I have ever used. In patients with acute delirium or mania its influence is wonderful.

M. H. KEYT, M.D., Private Home.

"IT PAYS TO PRESCRIBE THE BEST" is a truism adopted as a motto by the Codliver Glycerine Co., and a trial of Codliver Glycerine in practice will convince you that the preparation is up to the motto.

NORMAL LIQUID CANNABIS INDICA IN UNPLEASANT DREAMS.—Dr. R. T. Edes, in the Boston *Medical and Surgical Journal*, especially recommends Cannabis Indica for the relief of unpleasant dreams, transforming them into those of a more agreeable character.

"The drug should not be given in so-called 'full doses,' that is, not sufficiently large to produce effects obvious to anyone but the patient, and he hardly should be sure of it. For example, if experiments have shown that ten drops of the preparation to be used gives rise, in the average person, to some excitement, rapid talking, laughter, double consciousness, etc., let the dose for the purpose we are considering be, say, six or seven. I have found that a very convenient plan of administration, admitting of varying the dosage, is an alcoholic extract, which may then be dropped in the desired quantity upon a spoonful of granulated sugar.

"I have frequently had occasion to prescribe Cannabis Indica, and have found Parke, Davis & Co.'s Normal Liquid always efficient in doses of ten to forty minims. It would undoubtedly give satisfaction in cases like the above-mentioned, where the dreams are known to be habitual and not due to the 'traditional mince pie' or disordered digestion."

BLOOD IRON.—A palatable preparation of iron that is at the same time readily soluble, easily assimilated, and that does not constipate, has been the desideratum of physicians for all time, and many compounds have been devised without being able to fill all of these requirements.

It is natural to suppose that any physician who keeps abreast with the times, and is interested in the advances made in pharmaceutical preparations, will eagerly avail himself of the opportunity to obtain samples of an iron preparation that possesses the above requisites besides being neutral in reaction, agreeable in odor, non-styptic and non-poisonous even in large quantities. Hemoferrum (Blood Iron) manufactured by Frederick Stearns & Co., Detroit, Mich., is the preparation above referred to, and the manufacturers will be pleased to mail a sufficient quantity for a thorough clinical test to any physician who is unacquainted with it, together with full literature and clinical reports.

Hemoferrum is put up in pilloids (flat pills), and sold only in flasks of 100, and Messrs. F. Stearns & Co. will mail a full sized package, postage paid, to any physicicn who will remit ten cents to cover the expense of forwarding. Write them, mentioning this journal.

THERAPEUTIC USES OF EUROPHEN.—The general applications of Europhen are those which have ordinarily been recognized as suitable for Iodoform and its congeners. It is of interest, however, to make a brief selection from the many conditions in which the evidence is very abundant and decided as to its marked superiority.

1. In inflammations of the conjunctiva, keratitis, corneal ulcers, trauma, and operation wounds of the eye Europhen rapidly relieves the pain and induces healing. Among aural troubles it has been found of especial advantage in otitis media suppurativa.

2. In simple atrophic rhinitis and ozena the application of Europhen in the form of an ointment excites secretion and relieves the feeling of dryness and heat while in rhinitis with hypersecretion, its use, especially in the form of the powder, diminishes the discharge and arouses a healthy action. Excellent effects are also obtained from Europhen in nasal eczema, ulcerations in the nose, particularly those of a specific character, epistaxis, and after operations in the nose and throat, where it acts both as a hemostatic and antiseptic. In laryngeal phthisis its use is highly recommended.

3. In chronic ulcers of the leg, burns and bedsores, healthy granulation and cicatrization are promptly effected, while in cases of tuberculous ulcers and ulcerating lupus healing is frequently induced. In ulcerations of a venereal character Europhen has a special action, and it acts effectively in chancroids, chancres, open buboes, condylomata, gummatous ulcers, etc. A large variety of cutaneous diseases are cured or benefited by the use of Europhen, among which may be mentioned, lupus vulgaris, the sycoses, rosacea, facial erysipelas, dermatitis from rhus poisoning, seborrhea, chronic eczema and psoriasis.

4. In the treatment of wounds—accidental or resulting from operation—Europhen is an admirable dressing, forming an impervious, adhesive and antiseptic covering over the injured parts, under which healing takes place promptly. In dentistry, its freedom from odor, lightness, adherent and antiseptic properties make it an especially eligible remedy.

CANDLER, N. C., April 16, 1893.

Dios Chemical Co., St. Louis.—I am better pleased with Sennine as a surgical dressing than anything I have ever used. It is *par excellence* as an application to old chronic sores of every description. W. W. CLARK, M.D.

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ORIGINAL ARTICLES

Nephro-Lithiasis.

BY A. H. CORDIER, M.D., KANSAS CITY, MO.,

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My time being limited to fifteen minutes makes it impossible to take up the vast subject of kidney and ureteral surgery. I shall, therefore, confine my remarks to one subject, that of Nephro Lithiasis, and even then, this theme is too vast to be discussed in a single paper of fifteen minutes' reading duration.

Prophylactic or anticipatory surgery is the best surgery. By early work incurable and useless organs are removed, surrounding structures saved from an extension of the original process, and life saved.

Many abdominal neoplasms produce more harm and many more deaths by pressure or involvement of other life-essential organs than is produced by the involvement of the organ primarily affected. For instance, a small fibroid of the uterus, by its situation, may press on the bladder and produce an inflammatory process that may end the patient's life by a surgical kidney through an extension of the process to the kidneys by the ureters.

A tumor, by its pressure on the ureter, may give rise to a frequent desire to urinate.

Pawlick, the pioneer in ureteral work, has given some very nice guides to the entrance of the ureter, but to Kelly, of Baltimore, is due the credit of placing vesico ureteral explorations within the sphere of the works of the gynecological surgeon.

The title of my paper, by its extensive scope, implies a long article, yet, in as concise a manner as possible, I shall merely outline some of the more salient points connected with this important branch of surgery.

No gynecic surgeon can be thorough in his methods, or competent to operate on intra-peritoneal surgical diseases without, at the same time, being capable of doing all ureteral and kidney operations.

Nephro-lithotomy was placed in the category of modern surgical procedures in 1880, by Morris, but to Kelly for the later and surer method of detecting the source of pus in the urine is due the credit. His diagnostic helpers have assisted me in several instances in deciding as to which kidney was involved.

The operation of nephro lithotomy has been performed by surgeons in all countries. Early successes have lead to an extension of the surgery along the ureters, so that now this narrow tube is invaded from either extremity, its canal explored or dilated, and stones removed from any part of its course. It is comparatively a common occurrence for a stone to form in the pelvis, calyces or parenchyma of the kidney and demand the attention of the practitioner and surgeon that its presence may be early recognized, and the proper procedure for its removal resorted to promptly. In the neglected cases the great destruction wrought to the organ can be best understood by examining the kidney of one of them.

Calculi may form in the pelvis or calyces at any age, but is more likely to occur in early childhood or after the fortieth year. Uriate of ammonium in infancy, uric acid in adults and oxalate and phosphate of lime after forty, being the composition of these stones at these ages. They may develop in one or both kidneys, in the pelvic calyx, parenchyma, or all combined, the secreting structure of the organ, as a rule, being injured in proportion to the size of the stone, duration and location. A small stone may lead to the destruction of the kidney by occluding the ureter for a long period, or, if small enough to pass through this narrow canal, may give rise to no other symptom than severe pain during the passage, and cease to give further trouble, unless by its presence in the bladder it acts as an irritant, or as a nucleus for the development of a vesical calculus. Again, a large stone may, by a gradual growth in a location that does not produce an obstruction to the flow of the urine, attain an enormous size without producing much suffering by its presence. The kidney may become one large cavity containing pus, blood, urine, or all combined, without the patient having experienced any of the so called characteristic paroxysms of nephritic colic.

A stone weighing several ounces has been removed, post-mortem, from a cyst, the kidney structure having been destroyed. The woman had presented no history of such a state of affairs. This case is a rare one, and is

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mentioned to call attention to the fact that all of these cases do not have a typical history. As a rule, a patient with a suppurating kidney due to the presence of a stone will have hectic fever, emaciation and pus in the urine. A pyo-nephrosis may insidiously develop in the sac of a hydro-nephrosis (due to presence of a stone) without the development of the usual concomitant symptoms of the presence of, or development of, pus. A case may begin as a retention cyst if the stone occludes the pelvis, the calyces, pelvis, and even the parenchyma being dilated, forming a large tumor perceptible on inspection and palpation, attaining in some cases the size of an adult head. Suppuration, in such a cyst, may take place without any acute exacerbation of pain or fever. An imprisoned stone, giving rise to much pain by an ulcerative process, may be set free in the cellular tissue surrounding the kidney, and develop a perinephritic abscess. Like abscesses in the region of the appendix, these post nephritic suppurations are always secondary. The cause, in the majority of instances, will be found originating about the pelvis or the ureter. Many of these cases are incorrectly diagnosed as psoas and iliac abscesses due to a carious vertebra, and a plaster jacket applied to prevent a scoliosis and produce a cure. These cases will continue to suppurate as long as the sequestrated calculus is permitted to remain in the abscess cavity.

It is remarkable how much urine one of these seemingly disordered kidneys will secrete where the ureter is patulous, or even through a urinary fistula. A normal quantity, or even more, is often passed from a kidney the microscopical appearance of which would indicate the complete destruction of its secreting structure. Where true albuminuria is present it is due to the tissues of the secreting substance being involved, and not to lesions of the calyces and pelvis. Albumin due to the presence of pus is misleading until its exact source is discovered—not always an easy matter.

In the last three months I have operated for the removal of nephritic calculi on three patients, two being females, one male, the left kidney being affected in one of the women, the right in the other two cases. The male was twenty-two years of age. The women thirty-three and forty-four. The largest stone removed weighed two and a half ounces, and was composed of phosphate of lime.

I append the history of two of the cases to illustrate the two types of the disease, the acute obstructive nephro lithiasis, with perforation and perinephritic abscess, and the chronic partial obstructive, with retention and development of the stone in the calyces and pelvis, with chronic pyonephrosis.

The third case was of the acute variety, with post-nephritic suppuration of nine weeks' duration at the time of the operation.

Case of Nephro-Lithiasis.—Operation.—Recovery.

C. W., aged twenty-two years; single. This young man while in perfect health, was taken with a pain of the most intense character in the region of the right kidney. This pain persisted with unabated severity for a number of hours. Large and oft-repeated hypodermics of morphine finally subdued the greater intensity of his suffering, but while not under the influence of the opium he suffered much. Three or four days after the beginning of his attack he developed a fever of a septic type, his pains at the same time greatly subsiding. It was at this period of his illness that the pain producing impact calculus found an exit through the walls of the ureter or pelvis, at the same time relieving his pain by its escape, and producing evidences of sepsis and local suppuration.

In the beginning of his attack he passed blood-stained urine, the quantity being much diminished. After the imprisoned calculus was set free in the tissues surrounding the kidney, an enormous quantity of urine (polyuria) was passed, the specific gravity of which was only 1.002. This (polyuria) increased flow of pale urine with a low specific gravity has been a diagnostic symptom in several of my cases of acute nephro lithiasis.

The young man continued having his regular chills, sweats and fever for four weeks, losing much (eighty pounds) weight, and all his strength. During this period he was passing large quantities of pale, light urine, and was having more or less pain in the region of the right kidney. At this time I saw him for the first time.

After analyzing his symptoms and history I decided that I had to deal with a perinephritic abscess of a nephritic calculus origin. An operation revealed the correctness of my diagnosis. The young man made an ideal recovery, and is, to day, a perfect picture of good health.

This case had been diagnosed appendicitis, typhoid fever, abscess of the liver and malaria by as many physicians as I have enumerated diseases. This mistake is easily made in similar cases, if the physician is not systematic in his diagnostic methods.

Case of Nephro-Lithiasis.—Nephro-Lithotomy.—Stone Weighing Over Two Ounces Removed.

Mrs. P., of Olathe, Kansas, patient of Dr. C. G. McKinley. This lady, aged forty-four, mother of four children, youngest five years old, was sent to me by Dr. McKinley.

About five years ago she noticed a small enlargement in the region of the right kidney. At the same time more or less pain and uneasiness in that locality was felt. The uneasiness has continued up to this time. At no time has she had hard or unbearable pain like that due to the passage of a renal calculus. The tumor has continued to grow, but in the last year much faster than formerly. She is fairly well nourished, but some sallowness of the skin is noticed. Has at no time been confined to her bed from any symptoms pointing to this locality as a cause of her illness. Has had no fever at any time, or local tenderness, pointing to any acute suppurative process. Has been doing the ordinary duties

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of a housewife. Her urine during the last year has been clouded. On examination I found it contained much pus. Her bladder has been irrigated frequently with boracic acid, etc., with no diminution of the pus in the urine. Her bladder has not, at any time, been acutely inflamed or painful.

She has, at times, passed large quantities of urine, but it was always clouded, during the last year. On examining her I found a tumor the size of an infant's head in the right renal region, slightly movable, rather soft or semi-fluctuating, painless on handling, and smooth to the touch; dullness in front of the growth, but below the head of the colon resonance was elicited on percussion. The ascending colon was pushed to the inner side of the growth. Taking the history and well-marked physical signs I decided that I had to deal with a pyonephrosis, the origin of which was, very probably, due to the presence of a calculus. The tubercular origin of the condition was eliminated by its duration, pain, absence of bacilli, disease of other kidney being eliminated, and absence of rapid and continuous emaciation so often seen in the tuberculous kidney.

Operation performed November 18, 1893, Dr. J. D. Griffith assisting. An incision from the anterior or free end of the twelfth rib (which was short) was made, extending downward and forward, in a circular direction, to near the anterior superior spine of the ileum. This was carried into the anterior border of the quadratus lumborum. A few cutaneous branches from the lumbar and intercostal arteries were divided. The outer edge of the latissimus dorsi and posterior border of the external oblique were exposed and divided, then the internal obliqe and transversalis. The edge of the erector spinæ was not disturbed; this brought me down to the outer border of the quadratus lumborum. Much of the dissecting was performed by the fingers and handle of the scalpel. The kidney was now pushed from in front into the incision, as much as possible. An exploring trocar was introduced to make sure that I was not entering the peritoneum, and to find pus or other suspected fluids, and to hunt for stones. The first thrust of the trocar struck both pus and calculi. This opening was enlarged with the forceps and fingers. I found a large collection of pus in the kidney, and stones the aggregate weight of which was about three ounces. These were removed. The largest one weighed over two and a half ounces.

Cavity was irrigated and packed with gauze, and drainage put in. A large part of the incision was left open, as these cases suppurate freely and for a long time. The hemorrhage was at no time very alarming, being mostly venous from the parenchyma. A few hours after the operation she passed blood-stained urine, showing that the ureter was patulous, as was evinced by the passage of pus in the urine before the operation. Two days later her urine was quite normal in appearance and quantity. The dressings were more or less soiled with pus of a urinous odor.

"Ideal surgery" would have demanded the removal of the kidney at the same time I removed the stone, but the mortality of the primary operation of nephrectomy for a suppurating kidney is very high. If it is necessary, the diseased organ can be removed at a later period, and that, too, with a better prospect of recovery from the operation.

I believe that where a patient has had a number of attacks of nephritic colic and has passed a number of calculi, it would be good surgery to cut down upon the kidney, incise it and remove the cause if possible, which will often be found to be a saculated ureter or pelvis as a result of a stricture of the ureter or a chronic inflammatory process in the pelvix of the kidney. Many of these have a pyonephrosis which is greatly benefited by a nephrotomy, and treatment by direct applications to the diseased surface by peroxide of hydrogen, bichloride irrigations, etc., through the lumbar incision.

I have a patient now from whom I removed a vesical calculus by supra pubic lithotomy last fall, who is having repeated attacks of nephritic colic, and at this time has one or more small stones in his bladder. The stones all seem to form in one kidney and pass down into the bladder. A number of small stones have passed and all are faceted, showing that the pelvis of kidney is packed with similar concretions. I shall crush the stones in his bladder, and do a nephro-lithotomy with the expectation of stopping his colic attacks and causing a cessation of the necessity of any intra-vesical manipulations.

In two cases recently in my care I have resorted to the instruments of Kelly to aid me in diagnosing as to which kidney the stones and pus were coming from. These instruments can be used only in the female bladder, but are of inestimable value as diagnostic helpers.

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Report of Case of Extra-Uterine Pregnancy.

BY RUFUS R. HALL, M.D., CINCINNATI.

Reported to the Cincinnati Obstetrical Society.

Mrs. H., age 25 years, mother of one child 3½ years old; for the past two years has suffered more or less constantly from some uterine difficulty. During this same period her menstruation was profuse, lasting six to seven days, while formerly it lasted from three to four days. For a year or more the menstrual period came irregularly as to time, usually coming three to five days too soon, and occasionally defesred that many days. She has been annoyed from a vaginal discharge for two years or more, but has never given it much serious thought or attention.

November 17 to 24 she menstruated profusely as usual. December 17 she had a slight discharge of menstrual blood for an hour or so, accompanied with some pain; for the entire week, every day, she had just a show. This she could not understand, and felt uneasy regarding her welfare. She suffered no pain until January 2. While arising from bed she was seized with severe pain, lasting for one hour. This pain was located in the left ovarian region, and extended over the abdomen, also down her leg on that side. After the pain subsided she dressed herself and looked after her household duties until the morning of January 4, when, while arising, she had a recurrence of the pain, but still more severe. That paroxysm lasted one and one-half hours. It was accompanied by a bloody discharge from the vagina for four or five days. Dr. C. B. VanZant was called and saw her daily for three or four days. She then had a few days of comparative comfort, followed by a recurrence of pain. He then suspected ectopic pregnancy.

On January 17, I saw the case in consultation with him. At that time there could be distinctly outlined, to the left of the uterus, a small mass about two inches in diameter, moderately sensitive to pressure. The uterus was slightly enlarged, the cervix soft. The symptoms at this time were so suggestive of ectopic pregnancy that operation was thoroughly discussed and the husband apprised of the serious condition of his wife. At the second consultation, the following day, the patient was so much better that we did not suggest an operation; at the same time we did not discard from our own minds the probability of a tubal pregnancy. The patient improved rapidly, and by February 4, she was able to be up and superintend her household duties every day until February 11, when she was seized with what she described as labor pains, and says she passed an after-birth. She describes it as being one-half inch thick, one and one-half inches wide and about two and one-half inches long. She lost some blood for two or three days, but, feeling that she was relieved of her trouble, did not send for her physician until she was again seized with severe pain in the left ovarian region.

On February 19, this pain was still more severe than either of the former attacks, but lasted only one-half hour, leaving the abdomen sore and tender.

A few days after I again saw her in consultation with Dr. VanZant. She was sent to the Presbyterian Hospital for operation. It was performed Tuesday, February 27, and these specimens removed.

This is one of the most perfect specimens of tubal pregnancy that it has ever been my fortune to see. When it was removed the specimen was about two inches long, one and one-half inches in diameter, and somewhat the shape of a lemon. The ovary, you will observe, is attached to the side of the specimen, yet separate and distinct from the tube. The uterine end of the tube, as you will see, is fully one-half inch in length and about normal in size, where it disappears to be distended to form the sac. It again appears at the fimbriated extremity as a perfectly normal tube. Rupture had taken place sometime before the operation, and the blood was emptied into the abdomen. Evidently the fetus had died about the time of the first paroxysm of pain. We base our opinion upon the fact that the fetus is about the size of three or four weeks' gestation, and if we grant that she had a normal menstrual period in November, and the first paroxysm of pain caused the death of the fetus, it would correspond with these facts.

As you see, I have cut the secimen open and the membrane and blood clot in it show distinctly. Inside them is a small cavity not larger than a thimble, which contained fluid at the time it was cut open. In this you see the small fetus attached to the specimen by the umbilical cord. When it was removed the specimen was much more perfect than it is now.

The case is interesting, not only as illustrating the difficulties attending correct diagnosis in the early weeks of ectopic pregnancy in some cases, but on account of the specimen exhibited. The patient made an easy recovery.

Dr. Emory Lanphear, editor of the Kansas City *Medical Index*, has resigned the chair of Operative Surgery and Clinical Surgery in the Kansas City Medical College and has removed to St. Louis. He makes the change in order to become Professor of Surgery in the St. Louis College of Physicians and Surgeons.

Music as a Healing Power.—The idea that music possesses an actual healing power is about to be tested in London. The Guild of St. Cecilia is about to build or hire a large hall, in which musicians, especially trained to sing and play the very soft music which alone should be administered to those whose nerves are weakened by illness, shall perform by day and night. Telephones will connect this composite and continous music-room with certain wards of London hospitals. Records and data of conditions and effects are to kept, and conclusions arrived at.—*Med. Record.*

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The Upholding of the Code of Ethics and Its Effect.

Whatever may be the shortcomings of the Code of Ethics, devised by men that have nothing in common with the present generation of physicians and who now would be styled mossbacks and old fogies, it is certainly a matter of sincere congratulation to the profession of our country that this venerable relic has been upheld in its integrity by the San Francisco meeting. Although some of its provisions may seem antiquated and its language to our matter-of-fact ears rather pathetic, or in common parlance, highfalooting, it is nevertheless a well and succinctly written document, which loses none of its value by the peculiarities mentioned. Above all, it is honest and straightforward. There is no hedging or circumlocution. It can be understood by everybody.

It has been claimed by some that its provisions are of draconian severity and that nothing like it exists in other countries. This may be true, but it is also true that the medical profession of our country differs in its composition widely from that of the other great civilized nations. It must be borne in mind that as a body we are rather mixed and heterogenous. If a young man, who happens to be a tiller of the soil or a mechanic, or a brakeman, or a motorman, or a peanut vender, should be attacked by the ambition to become a doctor, there is unfortunately, even at the present day and in spite of great improvements, nothing in the way to hamper him in the realization of his ambitious plans.

In spite of the many protestations on the part of the medical colleges regarding the qualifications and requirements for admission to the study of medicine it is an open secret that with many medical colleges the requirements of a preliminary examination exist on the paper of the catalogues only. The result is and has been, that many inferiorities crowd into the ranks of the medical profession, who have no calling to be a doctor and would probably fill their station in life much more acceptably and creditably to themselves, if they had remained what they were before turning medical students.

It would not be reasonable to expect that such a heterogenous mass of men will stand on the same ethical platform with those who have enjoyed the privileges of a more liberal and higher education. Not that their standard is lower as men and citizens, but their views as to propriety in medical matters will of necessity be widely divergent.

It is quite natural that a man who has been engaged in some sort of business, as a merchant for instance, or an agent should carry his business methods into his practice as a physician. This as every one knows is indeed a matter of frequent occurrence and to such members of the profession the present code constitutes wholesome reading. It is with the code as it is with the laws, the ideal people and the perfect nation, whose evrey member is a model of propriety, would not need any laws whatsoever. If we, the physicians of this country, would be models of ethical propriety, no code would be necessary, but we are not. Hence the desirability of providing a document such as the code of ethics in its present form.

When we read in the dispatches that the majority report, favoring a change as regards the liberty of consulting with irregulars, had been rejected, we drew a sigh of relief, feeling that the fundamental structure upon which the integrity of the body medical of this country is built has remained unshaken, in spite of the machinations of a small but aggressive clique, which had managed, by dint of cunning and manoeuvering, to foist themselves upon the American Medical Association.

Their defeat is our glory.

The Origin and the Import of the Blood-Platelets.

In a recent issue of the *Centralblatt f. d. Medizinischen Wissenschaften*, 1894, No 20, we notice as a preliminary communication to a more extensive article on the subject, Dr. Bremer's investigations "On the Origin and the Import of the Blood-Platelets."

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In the examination of the blood of neurasthenics the author frequently observed masses of blood-platelets that were remarkable by their presence in great numbers and by containing fragments of red blood-corpuscles in various stages of disintegration. These fragments were found almost without exception. As a rule the fragments belonging to one blood-corpuscle could be seen to cohere by small threads. These observations Bremer first made in specimens that had been stained by the usual staining method for Plasmodia (heating to 120° c. and staining with a watery solution of eosin-methylenblue).

The idea readily suggested itself that there must be a certain relation between these blood corpuscle fragments and the masses of blood-platelets. At first Bremer supposed that he had to deal with artificial products and thought that possibly these formations originated in the attempt of spreading a film of blood upon the cover-glass; but he soon convinced himself that these structures only occur in the blood of certain individuals and that they are absent in most (healthy) persons.

A number of investigations, which the author made in reference to detecting the origin of the blood-platelets, gave the following results, principally based upon stained preparations.

"1. Bizzozero's blood-platelets are products of disintegration of the red blood corpuscles, exclusive of any other origin. They cannot therefore be looked upon as a third form element of the blood, which has been claimed by Bizzozero, nor as hematoblasts as Hayem thinks.

"2. In normal, as well as in rapidly disintegrating blood, one can see (in certain forms of neurasthenia for instance) in properly stained preparations, how blood-platelets, single or in rows, issue forth from the blood-cells, respectively are expelled by them. In such preparations one can plainly see the blue stained platelets come out of an opened blood-cell, in chains or in clusters of three or four. Sometimes one sees one or two blood platelets, which have not yet escaped out of the blood-corpuscle but are still contained within its body.

"3. This incident occurs while the blood is taken from the body; but other platelets occur already formed in the blood.

"4. The more or less large masses, containing up to three to four hundred platelets, are produced by the cohesion of the latter by virtue of their viscidity; sometimes they are still in contact with a red blood-cell.

"5. In almost every stained platelet one can see, usually in the center, a very small, colorless globular body. In large collections of platelets these bodies are larger in consequence of the running together of smaller ones. Bremer considers them to be biproducts in the process of disintegration of the red blood disks.

"6. The white blood cells, contrary to Loewit's assertion, play no role in the production of blood platelets. Bremer could never observe them in connection with the disintegration of leuco- or lympho cytes. The disintegration of the white blood-cells, which in many individuals appears to be very intense and copious, may be brought into view, in a very striking manner, by the eosin-methylenblue stain.

"7. In fowl's blood (chickens) there is no platelet formation; here a methylenblue degeneration (Ehrlich) takes place, in consequence of which the nucleus and the protoplasmic body appear equally and diffusely stained. The protoplasm loses its eosinophilous tingibility. The further the degeneration is advanced the paler the stain.

"8. The so-called elementary bodies, that are met with in every specimen of human blood, are principally derivatives of blood-platelets and identical with the above mentioned globules situated in the center of the platelets. But necrotic globules also occur in the leuco- and lymphocytes.

"9. The blood-platelets are under certain conditions amphophilous and neutrophilous in a sense that while they are never stained in a single solution of methylen-blue, with the double stain they appear at times blue, at times red or violet according to the mixture of the stain and the length of time they are acted upon by the staining fluids."

The results of these investigations are somewhat revolutionizing to the physiology of the blood. Whilst we are proud and grateful that a St. Louis man is carrying on successful investigations in such an important department of medicine as the morphology of the blood, our pleasure would be still greater had Dr. Bremer seen fit to publish such important results of his investigations in the city where he lives and practices and notably the REVIEW, which, we dare say, has the ear not only of the profession of America, but of that of the whole civilized world.

Infringers and Substitutors.

It is probable that there is no department of business wherein as much of this work is being done as in that pertaining to Pharmaceutical Products. Unprincipled manufacturing pharmacists do not hesitate to infringe upon the trade marks of others. Many dispensing druggists, and even some of the wholesale druggists, substitute with perfect impunity, more especially if the legitimate manufacturers of such products have created a demand for same. They do not consider for a moment the fraud they are prepetrating, not only upon such manufacturers, but the profession as well; all they consider is the lucre that they may derive from their nefarious work. We are unable to use words sufficiently strong to condemn this species of rascality. A physician prescribes a well known product from which he has obtained, heretofore, satisfactory results, he is surprised in not obtaining such medicinal effects as he has a right to expect, but his patients' lives are being sacrificed by the use of a substitute or a counterfeit of the article prescribed. At the same time every chemical company which is recognized by the profession as manufacturing products worthy of their consideration,

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are required to give the formula, and we believe that no physician should prescribe any product without such is given in full, we believe at the same time it is only right that every physician should protect, as far as in his power, the information thus conveyed, and never under any circumstances send a prescription to a druggist who has ever been known to substitute; until the profession takes this positive stand he can place no reliance that his prescriptions will be properly filled. Physicians permitting other products to be substituted in place of those prescribed cannot be considered otherwise than aiding and abetting the fraud being perpetrated on account of such substitution. What we say is not in the interest of any chemical company, but in that of justice and right and for the best interest of suffering humanity. It is only recently that our attention was called to a carefully written report, where out of over 300 bottles of a certain proprietary product which was secured of the druggist in the City of Chicago, over 200 were counterfeits.

We simply mention this fact that the profession may see to what extent substitution is carried on. A man ufacturing chemist who puts a product on the market, taking the same name, or a name similar to that of which there is already a product being manufactured, and for which there is a large demand, evidently does this with no other intention than to acquire benefit derived of money expended by others. He thinks that, possibly, the name of his product may be confounded with the one that has already an established reputation, and that the wholesale as well as the retail druggist will fill orders with his in place of the other. It is not honest, to say the least of it, for one to try to make profit or gain out of money expended by others, more especially where he deprives others of what legitimately belong to them. While this is not highway robbery or theft it is akin to them. When, Oh! when will our noble profession put down their foot once for all against all species of dishonesty, and use their influence with our State representatives that there be a law made to punish such perpetrators criminally the same as any other felony. The following is a synopsis of a clipping from the *Pharmaceutical Record* which only goes to prove the correctness of our statement:

Bromo-Caffeine.

The case of Keasbey & Mattison against the Brooklyn Chemical Works, Ascher L. Piddian, *et al*, came before Judge Beach in Supreme Court Special Sessions, May term, a month ago, and at the close of the court term, June 1, Judge Beach gave judgment for the plaintiffs in an opinion covering several pages of type-written matter, entering into and analyzing very fully and completely the testimony, and showing in his opinion why 'Bromo Caffeine" should be upheld by the courts as a valid trade-mark for the preparation known as Bromo-Caffeine, for which Keasbey & Mattison have created a large sale, and the reason why this sale should not be interfered with by parties making any similar preparation. The testimony for the plaintiffs elicited the fact that they had for the past ten years engaged in the manufacture and sale of an effervescent preparation used as a remedy for headache and other nervous diseased; that through their efforts it had acquired an extensive reputation and very large sale, being sold both in this country and in most European countries, as well as India, Turkey and other parts of the world, and that the name "Bromo-Caffeine" had been selected by them, practically originated by them, and trade marked for the purpose of protecting themselves in the enjoyment of trade which they had by expenditure of large sums created for this particular article.

The defense was, first, that the phrase "Bromo-Caffeine" was a combination of words which had been in common use and which indicated the character, kind, quality and composition of the preparation placed upon the market by the plaintiffs under the trade-marked name "Bromo-Caffeine." The judgment of the learned court is that "the proofs offered by the defendants failed to establish any such conclusions, and the words 'Bromo-Caffeine,' are never commonly used and have no significant meaning, neither does the word 'bromo' have any special significance. It signifies no particular fact, and is outside of all ordinary classifications. 'Bromo,' when applied to 'caffeine' makes a perfectly valid trade name for the preparation manufactured and used by the plaintiffs, and is used as their commercial signature, and it is not to be interfered with by other persons making a similar preparation."

The second point, and the one on which the greatest stress was laid by the defendants, consisted in the fact that about the year 1867, a German chemist, Otto Schultzen, produced a chemical compound known as a substitution compound in chemisty, having one atom of hydrogen in the caffeine replaced by one atom of bromine, the whole forming a bromo substituted compound, to which the discoverer gave the name of "Bromo-Caffeine," this appellation being in the direct line of analogy with other similar bromo-substituted organic compounds. This chemical has been used both in this country and in Europe, but never had any extensive sale, and differs entirely from the preparation made by the plaintiffs, and known throughout the world under the trade-marked name "Bromo-Caffeine." The court is of the opinion that even with this fact freely admitted by the plaintiffs, it furnishes no support whatever for the defendant's contention that on account of this chemical having been previously discovered, and the words "Bromo-Caffeine" having therefore previously appeared in public print, the plaintiffs have no right to the use of the words "Bromo-Caffeine" as a valid trade-mark under the laws of the United States.

Several months ago a criminal prosecution was begun by Merrs. Keasbey & Mattison against Luzon J. Finch for the sale of an effervescent preparation which he called "Bromide-Caffeine," the plaintiffs contending in that case that bromide-caffeine was an infringement

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and a counterfeiting of the term "Bromo-Caffeine," which they had adopted as their trade-mark.

In this case Finch was convicted and sentenced under the laws of the State of New York for counterfeiting the trade-mark employed by the plaintiffs. In the present case the suit was had in Equity for the express purpose of finally deciding in a civil suit whether or not the name "Bromo-Caffeine" was valid as a trade-mark. Judge Beach, in the opinion referred to in the present case, decides that the title "Bromo-Caffeine" as a name applied as a trade mark is valid, and in commenting thereon says: "If there is aught within the province of a Court of Equity, it should be the protection in the legitimate enjoyment of the fruits of business enterprise, and the firm repression of any attempt at their appropriation by others after their being made valuable and remunerative by the business efforts and at the expense of the originators. The principles of law underlying cases of this character and governing the grant, or withholding, of relief have been often adjudicated and are substantially unvaried in judicial expression."

Both prayers of the defendants' contention were therefore denied and judgment given in favor of the plaintiffs, the same carrying costs against the defendants.

MEDICAL SOCIETIES

Proceedings of the St. Louis Medical Society.

W. H. FUCHS, M.D., EDITOR.

Stated Meeting, Saturday Evening, June 9, 1894, the Vice President, HEINE MARKS, M.D., in the chair.

* * *

DR. W. A. MCCANDLESS presented a specimen of "Fibroid of the Uterus," removed by abdominal hysterectomy. The operation was performed by making the median abdominal incision, tying off the broad ligaments, the ovarian arteries and the uterine arteries successively, and removing the uterus entirely, enucleating the lower third of the organ by anterior and posterior, circular, peritoneal flaps. The flaps were then brought down and sutured together, the stumps of the ligated arteries and ligaments being included between the cut edges. In this manner the stump was entirely extra-peritoneal. The abdominal wound was entirely closed.

The removal of the entire uterus was made necessary in this case on account of the incorporation of the tumor with the uterine walls, and on account of the dangerous symptoms present. The speaker has six cases of a similar character under observation, all of which are comfortable except one. These cases should be closely watched, as it is necessary to remove the tumor only when it occasions distressing and dangerous symptoms, such as excessive and repeated hemorrhages, pain, cystitis and obstruction of the bowels.

DR. J. H. MCINTYRE is an advocate of the extra-peritoneal management of uterine stump, and he is in the habit of using dental wire for ligatures. Personally, he finds the new method more difficult then the old manner of leaving a uterine stump to be treated extra-peritone ally, probably because he has not been in the habit of performing total extirpations according to it.

As to ventral hernia after the extra-peritoneal operation, that need not occur if the stump is properly managed. Then hemorrhage is under better control. A large pedicle should be reduced to as small a surface as possible and munified by iodine, which the doctor has found superior to a solution of iron in glycerine.

DR. MEISENBACH considered the total extirpation preferable from anatomical and physiological grounds, besides leaving the patient in a more comfortable condition. The matter of ligating the uterine arteries need cause no concern if ordinary care be exercised. The arteries can be very readily reached and ligated as you would ligate vessels anywhere else.

* * *

DR. A. F. MEISENBACH presented a specimen of "Axillary Glands" which had undergone tubercular, cystic degeneration. The patient was 33 years of age, and had first noticed the tumor three months previous. It was fairly movable, circumscribed, soft and elastic to the touch. There was no induration around the tumor, nor any evidences of inflammatory process.

In operating the cyst was accidentally punctured, which was followed by a gush of thick, flocculent, yellow fluid. The cavity extended under the pectoralis major and minor muscles to the insertion of the tendon of the pectoralis major, and down into the axillary space. The cavity contained some fatty tissue and a chain of indurated lymphatic glands. The cyst wall was dissected out and all enlarged lymphatics and fatty tissue removed. Cheesy degeneration was very evident upon section of the glands. No enlargements were found elsewhere.

The practical point demonstrated by this case is the fact that we cannot always determine enlargements of lymphatics by palpation alone. If the doctor had followed out his first conclusion in this case—simply to currette the cavity without a further examination of its contents—it would have resulted in a recurrence of the condition for which the operation was performed; the cheesy degeneration of the glands would have led to the formation of another cyst.

DR. JACOBSON suggested that the other axillary space might have been opened up and explored for a similar condition.

DR. MEISENBACH replied that there were no indications for such a procedure. If there had been a suspicion of a pathological condition, he would have invaded the other space also.

DR. FRENCH said that although the glandular and other structure may be involved about a joint, the sur-

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geon should not forget that the joint is possibly the starting point of the trouble. Then in tuberculous gatherings, in the form of an abcess or cyst formation, there is never a true cyst wall as is associated with sarcoma. He referred briefly to the possibility of accomplishing a complete cure of the disease and of preventing the involvement of other organs, by performing an extensive resection of the joint involved. In the case of the hip joint, this might include the removal of the head and neck of the femur and of the whole acetabulum.

Dr. Kieffer suggested that it would be interesting to determine definitely whether this sac is a true cyst formation. It is true that tuberculous processes do not produce true cysts, but there might have been two processes going on at the same time. The question arises, which was the primary and which was the secondary process?

Dr. W. N. Beggs was called upon to give an opinion, but said he could not speak positively upon the subject without having made a careful microscopical examination. There can be no question as to the character of the affection of the lymphatic glands, however, as fresh cells can be discovered without great difficulty. In the case of the cyst the necessity for a careful examination is even greater. One of the earliest and most common methods of sprading of the trouble from a given focus is by the formation of secondary tuberculosis outside of the first. The wall of this cyst does not present such appearances, but we should consider that the wall might have been cleaned of the necrotic tissue by handling the specimen; and, on account of the artificial light, no tubercles can be found in the peripheral part as we would expect. The total cessation of the tuberculous process in the neighborhood would be a possibility, although improbable in view of its spread along the line of the lymphatic channels.

Cincinnati Obstetrical Society.

Stated Meeting March 29, 1894.

Dr. Rufus R. Hall reported a case of (see p. 516)

Extra-Uterine Pregnancy.

Dr. W. H. Wenning.—I would like to ask what explanation the author offers for the expulsion of the placenta.

Dr. Hall.—I will say that Dr. Van Zant collected several shreds of deciduum before she said she passed this after-birth. My presumption is that what she took to be an after-birth was a blood-clot. She passed the decidua several days before she said she passed the after-birth. She had been in bed several days with her knees drawn up, and I think probably the vagina contained some blood, and she passed this and thought it was an after-birth. There was a pint or more of blood-clot in various stages of coagulation in the uterine cavity.

Tubo-Ovarian Acscess.

Dr. Chas. L. Bonifield.—I operated upon this patient at Christ Hospital two weeks ago Friday, and when I got down on the mass the only thing I could see were two or three little cysts filled with broken-down blood. They were not thicker than tissue paper. I knew, of course, there was pus somewhere, and expected it to break in the pelvic cavity, and packed sponges around it as well as possible. I could not differentiate the ovary and tube, and so I began at the point easiest, and, much to my surprise, soon the whole mass came out. The patient was in the Trendelenburg position. The hemorrhage was rather severe for a time, and the tissues were so friable that it was difficult to get anything to tie. I packed with iodoform gauze to control the hemorrhage, brought the strips out through the lower end of the incision, and closed the abdomen. Her temperature went down to 99° in twenty-four hours, and she did not have any temperature at all until the stitches were removed. On the fifth day the gauze was removed. The day following the removal of the stitches there was a slight collection of pus where the gauze had been brought out. Dr. Pool has examined the specimen, and states that it is an abscess of the ovary, and he thinks extra uterine pregnancy can be excluded. There must have been fully half a pint of pus, of such a vile odor, from its proximity to the rectum, that it was very sickening indeed.

The point I want to make about the case is that in these cases, where one unavoidably ruptures an abscess in the peritoneal cavity, I am very much in favor of simply sponging them out as much as possible and not pouring water in to carry the infection throughout the cavity.

Dr. Giles S. Mitchell.—I heartily congratulate Dr. Bonifield on the successful issue of his case. I am also pleased with his remarks on the injudiciousness in such cases of irrigating the peritoneal cavity with large quantities of water. Martin, of Berlin, has made it plain that in any case where you have only a circumscribed peritonitis, even though you are so unfortunate in your manipulations as to rupture an abscess or pus tube into the cavity; it is far safer to simply clean it out with sponges than to irrigate the entire cavity, thereby carrying the infecting material to every portion of the peritoneum and in this way inviting a general peritonitis. The uninterrupted recovery of this case speaks volumes in favor of the soundness of the practice. I dare say that Dr. Bonifield, before he had completed his operation, almost wished he had drained the abscess through the vagina. That method of treatment, however, in this case would not have resulted in a complete cure.

Dr. Gustav Zinke.—I would like to ask the doctor if the abscess cavity was ruptured, and if the pus was in the peritoneal cavity.

Dr. Bonifield.—It was not in the cavity, but outside there was some coagulated blood, as if there had been some rupture before.

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Dr. Hall.—You ruptured the abscess cavity before you succeeded in getting it out, and emptied the pus into the cavity?

Dr. Bonifield.—Yes; it came out on my hand, and ran up my wrist.

Dr. Zinke.—I am interested in the report of this specimen simply because of a remark by the reporter as to the advisability of irrigating the abdomen when we operate for cases with pus in the peritoneal cavity. The view that he takes of the case may answer in cases of this kind, where the abscess cavity is ruptured in the operation and not much of the fluid has a chance to get into the general peritoneal cavity. If you take ordinary care under those circumstances sponging may answer the purpose, but even then I should doubt if it is not better to irrigate the cavity with sterilized water. Yesterday afternoon I had occasion to operate upon a case of peritoneal abscess, the result of septic infection as caused by criminal interference with the progress of pregnancy. The patient, a young woman about twenty-five years of age, single, had an abortion performed upon her person some two weeks ago. Whether the uterine cavity had been perforated during the operation, or whether it was simply a case of sepsis through the lymphatic channel, I could not tell. The probabilities are that the uterus was perforated. The abdomen in this case was never extended to any great extent. The uterus was small, but still contained some secundines, which were removed by the curette forty-eight hours before the abdomen was opened. I preferred to do the curetting because the abdomen was not greatly extended, and all the symptoms might have been produced by septic infection from absorption in the ordinary way. I reasoned this way: If, after the curetting, the symptoms should subside, no other interference would be necessary; if not, then there was pus in the cavity to a certainty, and opening of the abdomen justifiable. As the patient did grow worse, notwithstanding the curettement, I opened the abdomen forty-eight hours later. The abdomen at the time was not markedly distended; pulse 150, temperature subnormal. As soon as the abdomen had been opened very offensive pus issued freely from the wound. I made a very large incision, fully four inches in length, in order to be able to empty the cavity well. Pitcherfuls of warm boiled water were poured in to clean the cavity out thoroughly. It is my opinion that under such circumstances we can do no harm by irrigation.

Dr. Mitchell.—I think Dr. Bonifield is to be congratulated upon the clever result obtained in this case, and I am very glad he remarked about irrigating the peritoneal cavity in cases of this kind. Of course, the case recited by the other speaker is not a parallel case. There he had a peritonitis, and the only thing to do was to wash out. By cleaning out he hoped the inflammation would not extend any farther, and I believe this is the plan adopted by Martin, of Berlin. I saw a statement of his not long ago to this effect. It seems to me in a case of this kind it would have been easier to have tapped it through the posterior cul-de-sac. Of course, we know it is possible, from the recital of this case, to rupture a large cyst filled with pus into the peritoneal cavity and still the patient make an uninterrupted recovery, but that is not the rule. I know that when the doctor saw the pus he thought she would not survive long.

Dr. Zinke.—Is it not possible that this was aseptic pus?

Dr. Bonifield.—I described the pus to two or three gentlemen in the city, who are our best local authorities on these matters, and they all said they could not conceive of a pus which would give rise to a temperature of 103°, and of such character and odor that would not be infected.

In regard to Dr. Zinke's remarks about washing out the case, I thoroughly agree with him; in the case he describes it should be washed out, but when the pus is localized and you can prevent any but a very small portion of the cavity becoming contaminated, it is worse than useless to scatter this throughout the cavity. If you simply sponge it out as carefully as you can, you can have only a localized peritonitis. I think the water not only scatters the infection, but to a certain extent the water is an irritant to the cavity, and to a certain extent it destroys the power the peritoneum has of digesting and destroying germs and other foreign substances in it.

Dr. S. Stark.—I do not intend saying much in the report of this case, but a remark made by one of the previous speakers forces me to say something in connection with it. I refer to the advisability of puncturing this sac through the posterior vaginal fornix. An inspection would show it to be a true tubo-ovarian abscess, and not a simple abscess of the ovary, and it really is being fed by the tube. This I take to be the distended tube, and here you can see a connection with the tube. And so, if you satisfied yourself with puncturing the abscess of the ovary, it would be only a short time when the abscess would fill up again, and you would have to resort to the procedure again. Therefore, I think the only thing was the operation as performed for the purpose of getting an absolute cure. I concur with the reporter in regard to the irrigation of the peritoneal cavity. I also think it is a poor plan to do so in cases of this kind. I believe, though, for the purposes of irrigation, plain water should not be used, for the reason the reporter has mentioned, that plain water is an irritant to the peritoneal cavity, and I am in the habit of using the sterilized salt solution, which is perfectly innocuous.

Dios Chemical Co., St. Louis.—I tried Dioviburnia on a severe and long standing case of dysmenorrhea with most gratifying results. I have reported success with the Dioviburnia to a brother physician and druggist and have urged them to obtain a supply. They will. It does all you recommend it to do.

H. E. Bowles, M.D.,
Hammonton, N. S.

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ABSTRACTS

MEDICINE.

Congelation in Diagnosis and Treatment.—Abstract of the report of the Committee on Clinical Medicine of the Medical Society of the State of California. Albert Abrams, M.D. (*Occi. Med. Times*):

To Prof. Debove is imputed the credit of having first demonstrated, in February, 1884, the therapeutic application of freezing, by means of chloride of methyl, in the treatment of neuralgia, although the speaker had suggested the application of rhigolene for the same purpose, in his inaugural dissertation in 1881. (*Therapeutic Memoranda.*) He now desired to report certain original investigations made with this therapeutic agent.

Freezing with chloride of methyl has been extensively employed for the treatment of various neuralgias, irrespective of the pathogenic diagnosis, as well as in rheumatism and other affections manifested by pain. Its efficacy in properly selected cases of neuralgia entitles it to enrollment among the specific agents in medicine. Only those accustomed to the employment of congelation in the treatment of neuralgia can appreciate its marvelous action in many intractable cases of this affection. He had never witnessed any untoward effects beyond slight cutaneous ulceration in an elderly individual treated for sciatica. The use of any therapeutic agent based on empiricism alone will yield clinical results wholly at variance with strict scientific inquiry. He had, therefore, endeavored by theory and experimentation to evolve the rationale of freezing as a therapeutic agent.

The following hypotheses were presented:

1. Freezing may act as a counter-irritant, and the results achieved may be due to local or reflex action.

2. Freezing may act by producing physical changes in the underlying structures.

3. It may act as a shock.

The first hypothesis may be contravened in part on the assumption that freezing, unlike counter-irritation, is immediate in its action, of great potency, and followed by slighter reaction. The degree of cold secured by the usual methods of freezing is neither of sufficient intensity nor duration to warrant such a postulate. The reduction of temperature, as I have determined by experiment, is never sufficiently great to firmly sustain the first hypothesis. By re-enforced freezing a reduction of temperature to the freezing point can be secured.

The second hypothesis may be disposed of by briefly citing the results of certain experiments. If the skin over the nerves of rabbits is frozen daily and the nerves afterward examined, no degenerative changes in the latter can be demonstrated, and it is only after freezing is carried to an inordinate degree and repetition, unlike its clinical application, that any degenerative nerve changes can be demonstrated.

The final hypothesis is the most probable, viz.: that freezing acts as a shock, inhibiting the nerve functions for a variable period. While conductivity is an expression of physiological nerve activity, pain is an expression of pathological nerve activity. The inhibition of the activity of a pathological nerve expresses the ideal attainment of therapeusis. This is secured remotely by analgesic, or directly by local medication. In order to intensify the shock in freezing, I adopt one of the following modifications of the conventional methods of freezing:

1. Anemizing the part to be frozen by means of an Esmarch bandage.

2. Parenchymatous or hypodermic injections of water.

By means of the first modification, congelation occurs sooner, is more intense, and of longer duration.

The second modification, which I have denominated "reinforced freezing," and which can be employed in conjunction with the first modification, is executed as follows: With a large-barreled syringe, a sufficient quantity of water is injected beneath the skin over the part to be frozen, or directly into the tissues, until an appreciable bulging is produced. If the spray is now directed on the protuberant part, a lump of ice is formed in the tissues or under the skin.

I have employed congelation as a means of diagnosis for the following purposes:

1. To diagnose neuralgia of central from one of peripheral origin.

2. To differentiate neuritis from neuralgia.

3. To locate the lesion in neuralgia.

4. To differentiate many neuralgic affections of the head, and thoracic and abdominal parietes from visceral disease.

To differentiate between a neuralgia of central and one of peripheral origin is conceded to be a difficult matter. I believe, however, that by means of freezing we possess a valuable aid in diagnosis. If a nerve, the seat of neuralgia, is frozen nearest its point of origin, the pain will disappear if the neuralgia is of peripheral origin, and persist if of central origin. In the absence of spontaneous pain, the painful points in the course of the nerve distribution may serve as guides. Freezing is a specific for all recent forms of uncomplicated neuralgia. Cases in support of this theory were then given.

To differentiate neuritis from neuralgia.—Neuralgia of an accessible nerve treated by freezing near its point of exit, failing to yield to repeated applications of the spray, is not a veritable neuralgia, but a neuritis or complicated neuralgia. The speaker said this statement was based in part on a carefully kept record for many years of numerous cases of occipital intercostal and sciatic neuralgias, reports of two of which were given.

In the treatment of neuralgia, when reinforced freezing is not advisable, recourse may be had to a modified method, which I have denominated "coin freezing"

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The method is as follows: A coin of varied size is employed, which, having been previously moistened in water, is placed in close contact with the site to be acted upon; the spray is next directed on thecoin. After allowing the spray to act for a certain time, that is determined by experience, it will be found impossible to remove the coin without some difficulty. The advantages claimed for this method are: That the freezing is more thorough, and it can be accurately localized. It is less severe than reinforced freezing.

As a means of localizing pain.—In evidence of this, two cases were cited. In one, a painful cicatrix amongst small scars, was differentiated. In another, trigeminal neuralgia was traced to a carious tooth. In a third, a neuroma was discovered.

To differentiate many neuralgic affections of the head and thoracic and abdominal parietes from visceral diseases.—It is an indubitable fact to which detailed reference, to my knowledge, has never been made, that neuralgia of the intercostal nerves may be accompanied by visceral symptoms of such prominence that the intercostal neuralgia is overlooked, and treatment is directed toward a presumable visceral disease. Such cases, while presenting a varied clinical picture, are frequently analagous, if only atypically so, of gastric, cardiac, renal, vesical and esophageal affections. In many instances the symptoms of intercostal neuralgia in the implicated nerves corresponding to the presumably involved viscus are either absent or incompletely pronounced. As a rule, however, vertebral tenderness corresponding to the exit of the nerves can be elicited, and when congelation is conducted over the seat of vertebral tenderness during a paroxysm, the latter is nearly always inhibited. In support of this position several cases were cited.

In conclusion, the speaker said that freezing was not advanced as a catholicon, but as an efficient therapeutic and diagnostic agent in many properly selected cases. Its use may be extended in surgery in the treatment of local tuberculosis, tumors, etc. Parenchymatous injections of water into tumors, coupled with freezing (reinforced freezing), may prove of inestimable value in the treatment of neoplasms. In parasitic affections of the skin he had met with marvelous results in some cases.

Acute and Tolerant Stages in Heart Disease and Their Treatment.—Prof. Potain (*Gaz. degli Hosp. e delle Cliniche; Amer. Med.-Surg. Bull.*): The author distinguishes three periods in the evolution of the numerous combinations constituting "heart disease:"

1. The initial period, or the stage of the primitive affection.

2. The period of tolerance, or the latent stage.

3. The period of secondary disturbances, called by the author, "cardiarchy,"—the multiple and varying affections in consequence of the primitive lesion of the heart.

1. Cardiac lesions arise in various ways. Certain acute infectious diseases may give rise to pericardiac inflammation; or vitiated nutrition may produce sclerosis or degeneration in diverse parts of the heart; or there may exist spasmodic contractions of the small vessels of one or the other side of the heart; or, finally, there may be atrophy of the walls.

2. When the inital acute affection has terminated, the consequences of the inflammatory process may have disappeared so completely as to leave no trace; when the disease may be considered as cured. They may, however, in less fortunate conditions, persist in the form of valvular or chronic myocardiac alterations. The manifestations of the acute stage having passed away, the disease generally enters the stage of tolerance, in which it becomes more or less latent. The heart is undoubtedly not in normal condition, as revealed by auscultation; but the cardiac muscle can, nevertheless, functionate freely and regularly.

3. The stage of tolerance gives way to multiple circulatory disorders, variable functional disturbances, and secondary alterations.

In the acute period—when careful examination reveals the first indications of valvular myocardiac or pericardiac inflammation—local or general intervention becomes necessary. The local treatment may consist in applying wet cups, or, if these be not at hand, leeches over the precordial region. The former are considered preferable, since their application is more rapid, exposes the patient less to "cold," and allows an exact limitation of the quantity of abstracted blood. After this local blood-letting, a sufficiently large blister (8–10 cm. [$3^1/_2$–4 in.] in diameter) should be applied, and covered with oiled silk to prevent the absorption of the vesicating principle of cantharides, and eventual bladder trouble. At least one day should intervene between these applications. When the disease begins to recede, the vesicants may be replaced by iodine applications in the form of the tinctures, iodized cotton, or iodine ointment.

In the initial stage of the disease, the internal treatment may consist in administering calomel—50 ctg. (7½ grn.) per dose—as a purgative, to be followed by special medication, as the case may indicate. For instance, in rheumatic endocarditis, the author recommends sodium salicylate; if the endocarditis originates from some gouty affection, he prefers colchicum tincture, in fractional doses, increased to the limit of tolerance; in other cases, especially in typhoid fever or the grippe, he lauds quinine sulphate.

The acute period of endocarditis is not habitually accompanied with any marked disturbance of the cardiac rhythm. The irregularity and the sometimes excessive frequency of the heart-beats call for the use of cardiacs; as digitalis, particularly in arhythmia and tachycardia, caffeine in weak heart and acute dilatation of the organ, and strophanthus in marked precordial oppression.

The patient must remain in bed. Feeble persons should be supported by vigorous milk diet, provided there be no absolute intolerance; and the milk (taken in doses of ½ liter [1 pint] per day) does not, it is stated,

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give rise to gastric disturbances, as a rule. Mild soporifics may by prescribed. The slightest cause of mental excitement should be avoided.

As regards treatment in the stage of tolerance, the author proposes:

1. To maintain tolerance by preserving the patient's general health and removing all possible cause of disturbance.

2. To confine the cardiac myopathy within its limits as well as possible, having the patient follow an occupation beneficial to his health.

The causes of disturbances to be avoided are: Diseases capable of bringing on a new attack of endocarditis or myocarditis; energetic muscular exertion excessively stimulating circulation; imprudence of diet; stimulant beverages; mental agitation and sexual excitation.

When the patient has reached the convalescent stage, his functions are more or less altered and weakened. Corpulent persons are advised by the author to use the so-called Swedish gymnastics, with due regard for the patient's power of endurance as to muscular activity, walking, etc.

The Treatment of Acute Articular Rheumatism. — Dr. Dujardin-Beaumetz recognized the fact that we have in the salicylate of soda a specific treatment for this condition, which it is necessary to distinguish from pseudo-rheumatismal manifestations and from chronic rheumatism. The former may be considered the joint manifestations of pathogenic microbes of various origins, gonococci of blennorrheas, microbes of scarlet fever staphylococci of purulent infection. The latter should be classed among the disorders of nutrition. Acute articular rheumatism is an infectious disease; its cyclical progress, the temperature curve, always the same. Were it contagious there would be not a doubt as to its infectious nature. Although the salicylic acid has been abandoned, for it is ordinarily not well borne by the stomach, and salicine has been rejected, medical opinion is in harmony in regard to salicylate of soda, not only as to dose, but that it should be administered in solution and in divided doses, according to the intensity of the disease and its resistance to the remedy. The minimum dose is one drachm; in acute cases we can exhibit twice this quantity or even to two and one half drachms in the twenty-four hours. Given at intervals of from two to four hours in aqueous solution, the nauseous taste can be avoided by the addition of sweetened water, or a small quantity of brandy, kirsch, or rum. For dyspeptics who do not tolerate its administration per orem, the rectum offers a perfect substitute, for Lemanski has shown that when given in rectal injection, it will appear in the urine in fifteen minutes. It is well to produce diuresis and in this way to hasten its elimination. A milk diet is advisable, and when the dose exceeds two drachms it is necessary, although Paul and Labbe prefer the alkaline mineral waters of Vichy, Ponges, or Vals. When the symptoms disappear the remedy should be continued for two or three weeks in small doses, to avoid the danger of relapse. This remedy does not jugulate the disease; it masks its evolution, so that it reappears if the drug be omitted. If the treatment is commenced at the onset it prevents complications, so that we see less frequently than formerly the heart manifestations. Although it does not cure in all cases, it cures the great majority, and the exception proves the rule. Certain individuals present an almost complete intolerance, either showing toxic symptoms, intestinal troubles, or cerebral symptoms, even to delirium; these symptoms may be produced by small doses even. The reason of this intolerance is well known, it is insufficient elimination, which is readily determined by treating the urine with perchloride of iron, which gives rise to a violet color if only minute traces of salicyluric acid are present. In children and adolescents to the age of twenty, in whom renal activity is great, the drug is well borne; in old age, or in subjects who have diseased kidneys, the elimination may only take place after 24 or 48 hours, and then persist for three or four days. Where the remedy has produced an abortion, the authors do not seem to have taken into consideration the fact that renal congestion is the rule in pregnant women. Therefore caution should be exercised in using the drug during pregnancy. The inconvenience of antipyrine and of exalgine are avoided in asaprol, which is a calcium monosulphonate of *B*-naphthol. This remedy is a soluble antiseptic, non poisonous, which is eliminated as a sulphuric ether of naphthol, and as such is recognized by the dark blue color which perchloride of iron gives when added to the urine in which it is present. The dose is from 45 to 150 grains per diem. It does not produce either dyspeptic or nervous troubles; it lowers temperature and pulse-rate. The method of administration is by means of cachets, or in aqueous solution, to which sweetened water, or anisette, or curacoa is added at the time of taking. It appears to be the equal, if not the superior, of salicylate of soda in the rapidity in which it gives relief and cures the patient. There have been noticed no untoward results even in patients who suffer from albuminuria. The external treatment of rheumatism holds only a secondary position: wrapping the joints in cotton, the use of soothing liniments, of doubtful value. However, Bourget has strongly recommended the external application of salicylic acid according to this formula: Salicylic acid, lanolin, essence of turpentine, of each, 5; lard, 40. He declares that within half an hour after frictions have been made with this preparation the urine shows the presence of the drug. However, Ruel, for the past six years, has used salicylic acid, 2; absolute alcohol, 10; castor oil, 20, with the addition of chloroform, to facilitate the absorption of the remedy.

M. Huchard reports a single case of a chronic rheumatic who had become habituated to the use of salicylate of soda, and used an old solution which had become somewhat evaporated. Each teaspoonful originally contained 30 grains of the drug, but the dose in

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this case was difficult to determine. Two hours after ward she complained of pain, extreme mental anxiety, violent tinnitus, and intense dyspnea The patient was not hysterical, nor did the urine contain albumin, although there was slight functional renal insufficiency. This patient possesses also a certain susceptibility toward other drugs.—*Revue de Ther. Med Chir.*

The Treatment of Gonorrheal Epididymitis and Orchitis with the Electric Current.—Dr. P. Schurff (*Centrlbt. f. d. Krnkhtn. d. Harn und Sexual-Organe; Amer. Med.-Surg. Bull.*). The treatment of this condition by means of the electrical current is not new, but Schurff gives careful directions as to strength and intensity of current, size of electrodes, duration of the sittings, and methods of treatment which have proved valuable to him in the treatment of this condition.

In the acute stage, he begins with electrodes of large surface, 50–60 cm.², and a current of ½ M.A. The current, regulated by a rheostat, so that it can be turned on and off without giving rise to irritation, is measured by an absolute galvanometer graduated to ½ M.A.

The patient lies on his back with the scrotum raised, the anode is adapted to the shape of the swollen organ and placed under it. The cathode of equal size is placed about ½ hand's breadth above the external ring of the affected side, and the current allowed to pass for three minutes. It should cause no pain or irritation, and after the seance the more or less intense pain is found to be entirely vanished or in great measure lessened, and the patient is able to move about with less pain. As regards the pain, there may be some return at the end of twenty-four hours, but not of the previous intensity, and it entirely disappears after a few seances.

The sittings usually take place daily, and every second or third day the strength of the current is increased by ½ or 1 M.A., and the length of the sitting by five or ten minutes, according to the effect produced. After the pain and swelling have left the cord the two electrodes are placed on opposite sides of the swollen epididymis, and as the patient improves gradually, smaller electrodes are employed whose surfaces measure 25, 10, or 5 cm.²OC.

After the electrical treatment, the scrotum, covered with rubber tissue, is fitted with a suspensory carefully padded with cotton. Fever, if present, is treated by 15 grain doses of salicylate of sodium given t. i. d., and the secretion on its reappearance also receives attention.

As a rule, the earlier the disease is treated the quicker the last traces of inflammatory infiltrations vanish.

In the subacute and chronic cases, currents of greater strength and intensity can be used. Schurff usually begins in these cases with electrodes of 25 cm.², current 1 M.A., and applies for five minutes. The electrodes are placed on each side of the affected part. By a comparison of the consistence and size of the swelling after the seance with that before, it may be noted, oftentimes not until after several applications, that the previous hard swelling is distinctly softer. The circumference diminishes from day to day till no swelling is left. The smaller the infiltrated portion becomes, the more obstinately it resists the resorbent influence of galvanism, and at this point it may be necessary to use other means. The electrodes are reduced to a knob or button, with use at the same time of as strong a current as possible, or the voltaic alternative is used, or the combined galvano-faradic, or the kataphoric action of the galvanic current is employed with Lugol's solution in different per cents in a diffusion electrode.

Artificial Immuity.—Dr. Henry Reed Hopkins (*The Sanitarian*). It has long been known that certain cases are remarkably exempt or immune from attacks of communicable diseases. A similar variation in immunity has been discovered in the lower animals. There is a pathological antithesis to this class—those who are peculiarly susceptible. In connection with this, it is noted that there is a similar reaction to drugs—one individual showing no effect after a proper dose of a well-known remedy, and another individual, after the same dose, showing symptoms of poisoning.

Bacteriology teaches that many of our infectious diseases can be communicated to our lower animals; but it also teaches that immunity and susceptibility are more marked in them than in the human race. This makes the bacteriologist ask:

1. What is the nature of the change in an individual after an attack of scarlet fever, small-pox, etc., whereby he ceases to offer the requisite culture media to the germ that caused the disease?

2. How far does this principle of immunity extend among the infectious diseases?

3. How far can we extend this artificial immunity for the prevention of disease?

Satisfactory progress is being made along the line of these inquiries.

Koch distinguishes between bacterial infection and bacterial intoxication. In bacterial infection the microorganism enters the body of the suscedtible individual, increases rapidly in numbers and swarms throughout all the tissues. Their bad effects are caused mechanically by blocking the capillaries and thus arresting the circulation and functional activity and by robbing the tissues of nutrition, particularly oxygen. Bacterial intoxication is caused by toxines. The bacteria tend to grow only on certain tissues in certain localities, producing local diseases, but the toxines entering the circulation, are carried throughout the body, and acting as an irritant to the sensitive tissues, produce the given disease. These toxines are of two kinds: ptomaines and toxalbumins. The former are crystalline, alkaloidal bodies, the latter are colloidal. The role these poisons are to play is seen when we know that they can be produced ouside of the body, and when introduced into the susceptible individual, with or without their organism, they produce the given disease.

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We now know that an animal may have immunity of two distinct kinds—from bacterial infection and from bacterial intoxication. An individual can have one without the other. This gives us an inkling into how, by the right use of these processes, infectious diseases in the future are to be treated or prevented.

Investigation into this condition of bacterial intoxication seems to establish the fact that there is in the blood serum a chemical substance or substances of vital origin called defensive proteids, which render pathogenically inert the ptomaines and toxalbumins in all cases of bacterial intoxication; also that the organism can produce these antitoxines as they are required for the individual's protection, until their protective activity in the blood, in more than normal ratio, is demonstrable.

When by suitable treatment an individual is able to receive with impunity what is ordinarily a fatal dose of toxalbumin or ptomaine, he is then said to be poison proof.

This immunity may be acquired, and the possessor, if a female, may transmit it to her offspring.

Experiments show that the blood of the poison proof animal has hight curative powers in cases of the given disease occurring in his own kind or in man.

The Exmaination of the Blood in the Diagnosis of Fevers.—The importance of a microscopical examination of the blood in simple anemia is generally admitted. Its further value in the diagnosis of fevers is set forth by Dr. W. S. Thayer, whose study of anemia following typhoid fever recently appeared in the fourth volume of the *Johns Hopkins Hospital Reports*. He states that the examination of a fresh specimen of blood will enable the physicians to distinguish typhoid from malarial fever by the absence of the hematozoon called Laveran's organism. In tuberculosis, whenever there is any local inflammatory process, such an exists in the great majority of cases, a certain degree of leucocytosis or increase in the colorless blood cells is always present, showing that the number of overripe elements is distinctly increased. This is probably the rule also in cases of general acute miliary tuberculosis. This leucocytosis may be absent in some rare cases of miliary tuberculosis, where the primary focus of infection is not the seat of an extensive inflammation, though there generally is a high percentage of those leucocytes or white corpusles whose nuclei are so contorted that they appear as "multinuclear elements." According to Ouskow, typhus fever shows no appreciable change in the blood from the normal. Of the other infectious processes with which typhoid fever may be confounded, the majority are usually associated with hidden inflammatory foci, causing a marked leucocytosis with an increased proportion of "multinuclear" non-staining cells. There is absence of leucocytosis in some cases of malignant pneumococcus infection, though a subnormal number of leucocytes has never been noted, or a diminution of non-staining cells with contorted nuclei. In any suspected case of typhoid fever the examination of the blood should never be neglected, for in the absence of leucocytosis and in the changed relative proportion of the different varieties of colorless corpuscles there are two valuable diagnostic symptoms, though neither may be pathognomonic. Where the case has existed for some time, and has perhaps shown anomalous symptoms, the change in the relative number of leucocytes is particularly striking. In such cases the discovery of a much decreased proportion of leucocytes having contorted nuclei, together with a corresponding increase in the large uninuclear and transitional forms, may decide the diagnosis.

A New Method of Diagnosis and Prognosis of Chronic Nephritis.—Dr. Basset, of Tolouse, in a paper read at the International Medical Congress held in Rome, said that as long ago as 1860 he had read a paper before the Medico-Chirurgical Society of Toulouse, on "The Non-Elimination of Odorous Substances by the Kidney, as Bearing Upon the Diagnosis and Prognosis of Nephrits." Since that time he had found a new and more precise method of arriving at this end, namely the employment of iodides and of the salts of quinine, the elimination of which by the kidneys is so rapid in the normal condition, and the comparative dosage of which may be made so exactly. The following were the conclusions of the communication:

1. The elimination of odorous substances by the kidneys is retarded, diminished or abolished in chronic nephritis.

2. This examination of the odor of the urine is an easy and rapid method of ascertaining the functional condition of the kidneys and of determining their anatomical integrity or the reverse, and thus of arriving at a diagnosis and prognosis of Bright's disease.

3. The salts of certain substances which are ordinarily eliminated in great part and rapidly by the kidneys, such as the iodides, the bromides, the salts of quinine and the turpentines, which form with nitric acid a precipitate soluble in ether and alcohol, are very useful as furnishing in a precise manner, by the retardation or diminution of their elimination in the urine, data upon which to base a diagnosis and prognosis of the various degrees of chronic nephritis. — Maryland *Medical Journal.*

SURGERY.

Contribution to the Study of Anal Tuberculosis.—Hartmann contributes an exhaustive article (*Revue de Chirurgie; Amer. Jour. of the Med. Sci.*) on this subject. He states that tuberculous fistulæ in the region of the anus may originate in neighboring organs, as the prostate, adjacent bones, etc. There is also a variety of peri-anal subcutaneous tuberculous gumma

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which corresponds to those found in other regions. With these the author does not concern himself. Particular attention is called, however, to a form of tuberculous ulceration peculiar to this region, and which appears at the muco-cutaneous margin of the anus, usually just within the canal, and results in the formation of a fistula. The relation of anal fistulæ to pulmonary consumption is of interest. In 626 phthisical patients the author found and operated upon 31 fistulæ. The proportion was 6 per cent in men and 3.5 per cent in women. In 48 cases upon which the author operated for fistulæ, undeniable signs of pulmonary tuberculosis were found 23 times; 2 other patients gave a tubercular family history; while in 23 cases the patients seemed to be free from tuberculous trouble. Of 114 cases of diarrhea in phthisical patients, 8 were found to have fistulæ, a proportion a little larger than that found in all tuberculous cases. In only 1 case in the 48 patients operated upon did the diarrhea continue after operation.

Having established the connection between phthisis and these fistulæ it does not follow that all fistulæ in phthisical patients are tuberculous. The author does not accept the view that anal fistulæ in phthisical patients begin as abscesses, but states that they usually originate in the anus.

Although the fistulæ may extend high up the rectum the internal orifice will be found near the sphincter. In 41 cases the rectal mucous membrane was carefully examined at the time of anesthesia and after dilating the anus, and only twice was ulceration in the rectum proper found which could posibly be tuberculous. Nor have any ulcers been found in connection with abscesses. Therefore the theory that these fistulæ are due to tuberculous ulcers has not been confirmed in the author's experience.

Of 10 suppurating cases, tubercle bacilli were found in 6; in 1 case the tubercle bacilli were associated with streptococci and staphylococci pyogenes aureus, and in 5 the bacterium coli was found. In some cases there were no evidences of any other tuberculous lesion. It appeared, therefore, that the anal lesion was primary. Hartmann concluded that the tuberculous abscesses of the anus result from local inoculation of a superficial excoriation by tubercle bacilli in the feces. It is at the region of the sphincter that these abrasions exist, hence the abscesses at this point.

Operation has been objected to by some authors on the ground that the wound would not heal, and that if it did a useful outlet would be suppressed. Both of these premises are incorrect. In regard to the fear of generalization after the operation the author states that in 154 operations in the Hospital Bichat during the last few years, in not one has there been generalization of the disease.

The following considerations refer to muco cutaneous ulceration at the margin of the anus:

Etiology.—Of 29 cases observed, 22 were in men, 6 in women, and 1 in a child. Diarrhea is more frequent than in fistulæ; this was noted in 12 cases and probably occurs more frequently than has been supposed. Only 3 of these patients suffered from hemorrhoids. One had a previous fistula, and one an eczematous eruption. All of the patients had pulmonary lesions, some far advanced.

Symptoms.—At the beginning of the ulceration there have been no definite symptoms, merely a little uneasiness or discomfort at defecation. There is a tendency for the ulceration to extend upward on the mucous membrane—an ulceration of the anal canal proper. The pain is very variable and the course of the ulceration is slow.

Treatment.—As these cases are usually complicated with intestinal and pulmonary lesions general treatment is always necessary. Locally, silver nitrate, long persisted in, may be of some benefit. The galvano- or thermo-cautery may also at times be indicated, but usually the bistoury will be required. Frequently it is best to cut away the ulcer and cauterize the base. The wound should be packed with iodoform gauze. In this way permanent cures may be looked for.

Tumors of the Kidney in Children.—Drs. Dodelein and Birch Hirschfeld (*Centrblt. f. d. Krnkhtn. d. Harn- und Sexual-Organe; Amer. Med.-Surg. Bull.*).

This paper gives the clinical history and successful removal of a sarcoma of the kidney in a child 7 years of age, with a review of the literature by Dodelein and the pathological anatomy by Birch-Hirschfeld.

Of malignant tumors occurring in children, about 50 per cent are tumors of the kidney; further, more than a third of the cases of malignant tumors of the kidney occur in the first ten years of life.

In the case reported, the tumor had a history of nine months beginning about December, 1892. In May, 1893, the child began to emaciate and to complain of severe bodily pain, and was admitted to the hospital, July 20, 1893. No family history of tumor. No change in urine noted. Child greatly emaciated, had marked protuberance of abdomen, and walked with backward bend of body on account of size and weight of tumor. By palpation, the entire left side of abdomen, from the vertebral column behind a point beyond the right of median line in front, and from the ribs to the pelvis, was found to be filled with a firm, smooth tumor, showing behind close to the vertebral column, a nodular mass the size of a child's fist, which proved to be the left kidney attached at its hilum to the tumor. Percussion note everywhere over the tumor was dull, other organs normal, urine contained no albumin and no blood, and was normal in amount.

Operation July 22, 1893. Ether was used as an anesthetic, and the author emphasizes this fact. First an incision was made four inches long, about the level of the umbilicus, ascites not present, peritoneum normal, the finger introduced felt the smooth surface of the tumor. The incision was then enlarged and extended the entire length of the linea alba from the xiphoid process to the symphysis, and the tumor lay exposed. The

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descending colon coursed over the tumor towards its median edge. The peritoneum was divided at a distance of four fingers' breath from the colon and the layers pushed to either side, and several large vessels running from the peritoneum into the tumor were tied. Bleeding from the tumor was controlled by careful application of wide clawed forceps (Krallenzangen), the ordinary forceps and ligature not being applicable on account of the friability of the growth. As soon as the loose connective tissue at the side was reached, the tumor was rapidly shelled out with the hand. At this point in the operation, reached in about ten minutes, child showed signs of collapse, but responded to hypodermatic stimulation. The pedicle of the tumor was divided into three parts and ligated with strongest catgut. Bleeding carefully attended to, larger bleeding points by ligature or by insertion of suture, the smaller by actual cautery. The entire wound occupied by the tumor was then filled by a tamponade of sterilized gauze and the peritoneum sutured over it, by continuous suture, except a small slit in the lower angle, through which to take out the gauze. A careful search of the abdominal cavity revealed no suspicious metastatic points; retro-peritoneal glands not enlarged. The gauze was then removed through the slit left in the peritoneum, and as there was no bleeding, the peritoneal slit was sutured and dropped back into the cavity, and the abdominal cavity completely closed.

The child was discharged after eighteen days, and rapidly regained flesh and strength.

OBSTETRICS AND GYNECOLOGY.

Ectopic Pregnancy.—Martin (*Berliner klinische Wochenschrift; Amer. Jour. of the Med. Sci.*) concludes his series of articles on ectopic pregnancy with a list of 41 cases of pure extrauterine gestations divided into three groups.

In the first group of 14 cases, the ovum, more or less intact externally, lay in the ovisac. No blood had entered the abdominal cavity, but the ovum was in varying stages of maceration and resorption.

The second group includes 9 cases of rupture. 16 cases of abortion constitute the third group. In 2 cases both abortion and rupture obtained.

a. In the 14 cases of the first group, the duration of pregnancy was as follows:

In first month, 6; second month, 3; third month, 2; fourth month, 2; eighth monteh, 1. The pregnancy in each case was interrupted through hemorrhage into the fetal sac. The tube was intact; its external orifice open, and it contained no trace of blood.

In the 6 cases of one month and the 3 of two months, no coherent part of an ovum and no trace of a fetus were present.

In the 2 cases at three months, in 1 the fetus was found in the amniotic cavity. The same condition was found in 1 at four months and in the eight months case. In some cases the uterus, chorion and amnion were separated by intruding clots, the intra uterine ovum being involved. In others the ovum was wholly destroyed by blood and only the chorion tufts were left. In only 3 women were fetuses found. If the ovum escapes into the abdominal cavity early, it is absorbed; later, it undergoes degenerative changes, and as such may be met with surrounded by, or mixed with, bloody detritus. What ultimately results from these ova is hard to say.

The 6 cases of one month and 3 of two months seemed to be on the way to safe restoration. The sac contents showed ovular fragments interspersed with coagula.

b. The 9 cases of rupture. It is striking that in 4 the ovum had isthmian insertion where the ampulla passes into the isthmus. In 4 the tubal end was inserted into one ovarian cavity, and the blood had no outlet save by rupture. In the others there seemed no hindrance to the escape of the blood by the physiological way. Three times the fimbriated end was agglutinated, four times the end of the ovary formed a firm mass, twice an ampullar hematoma; in 1, profound muscular atrophy at the point of insertion, and between the scanty muscle fibres lay great blood spaces. In 1 there was hernia of the tubal mucous membrane; in 4 the tube-walls showed traces of chronic salpingitis, the rupture occurring at the placental site. In 1 case the abdominal end was sharply bent, and ruptured immediately at the ovular insertion, so that the blood could not escape, and this had led to complete occlusion of the lumen of the tube. It appears, then, that in all cases of rupture peculiar difficulties existed which precluded the physiological way, and in all cases rupture is the result of peculiar complicationss of the ectopic ovular insertion.

c. Regarding the cases of so-called tubal abortion the author says: In this third group it is worthy of note, that of 16 cases fourteen insertions of the ovum were in the ampullar part of the tube. The swelling thus occasioned lessened or prevented the escape of the blood by the abdominal mouth of the tube. In one case the tube was wrapped around an ovarian cystoma, both having grown together into a so-called ovarian tumor. In the other the whole tubal mass was greatly developed intra-ligamentously, and through peritoneal thickening the tube was shrunken peripherally from the ovarian insertion. Nevertheless the blood had forced its way through the narrowed channel and distended the abdominal mouth of the tube until it gave way laterally. It is also significant that of these 16 cases, in 9 the pregnancy had advanced to two months; in 4 only abortion took place in the first month; in 1 at three months, and in 2 during the fourth. The ampulla and isthmus are capable of retaining the ovum up to this point of size, but the wall becomes as thin as paper. The muscular elements suffer most; hemorrhagic foci separate them and the individual muscle-cells become cloudy or atrophied. The mucous layer, on the contrary, is little the worse; its longitudinal folds unite stellar-like before and

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behind the insertion of the ovum. As to the mechanism of the abortion, a self originated contraction of the tube is improbable; in fact, its muscular elements are incapable of it. According to his observations, the author thinks the expulsion of the ovum is due to hemorrhage which occurs at the point of ovular insertion, arising either from incongruence between the ovum and its point of support, or from traumatic lesions. The bleeding may intermit or remit, or become massive, sweeping all before it. It follows the normal channel unless this be occluded, when rupture occurs.

NOTES AND ITEMS

The Necessity for a Well Paid Medical Profession.—In a recent address before the South west London Medical Society Mr Thomas Bryant in speaking upon the importance of physicians being well paid for their services, said: "Let us never forget that our patients' interests are those we should always primarily consider, and that in all our practical and scientific professional work the public good is its ultimate object; but at the same time let us bear in mind that in order to realize this leading purpose it is all-important for the interests of the public, as well as for the due exercise and dignity of our profession, that every practitioner of medicine should hold a perfectly independent but responsible position, and that be left perfectly free from lay control, although amenable to lay censure. It is also equally necessary that he should be adequately paid for his professional services by all classes according to their means. Under these circumstances all measures, whether under the guise of charity or called 'provident,' and all hospitals, general, special, or private, which encourage the public to seek professional advice for little or nothing, are to be discouraged as helping to pauperize and degrade the public at large; and all members of our profession who induce or tempt the public so to do by means of private hospitals, competing private dispensaries, touting clubs, and associations, or who are ready to accept at a reduced figure, over the heads of their neighbors, appointments which have been put up by laymen, as it were, to auction or competition, adopt the surest means within their power to lower the position of their profession in the estimation of the public, and at the same time do injustice to the profession and public by not giving to the latter the best services the former can supply, while they must, in addition, lose their own self-respect, even if they happen to gain cash by their unworthy actions. For, let me ask, how is it possible for a man who is ill-paid or overworked, or both, either to give, in the interests of the public, the professional attention it is essential for him to bestow on every case he has undertaken to attend; or to maintain, in the interests of the profession, the position to which he is entitled and his own self-respect? We all know that any measure which encourages, either in a profession or trade, underpay and overwork, leads to bad work. In our profession such deficiencies are no less harmful—nay, they are more so, as its issues to the public are either life or death, health or ill-health, and to the profession either a position of pleasure, honer, and respect, or one of degradation and unrequited labor."—*Lancet.*

Faculty Changes.—The *Post Dispatch* in a recent issue had the following news, which must be taken for what it is worth:

In connection with recent changes in the faculty of the Marion-Sims College of Medicine, particularly the resignation of Dr. T. B. Taylor as Secretary and as Professor of Dermatology, unpleasant rumors are afloat. Dr. Taylor, when seen this afternoon, admitted that he had resigned, but said that his resignation was due to ill health. He had not, he answered, had any trouble with the faculty. As to his financial relations to the college he preferred that Dr. Young H. Bond, the Dean, be seen. Dr. Bond said:

"Dr. Taylor resigned on account of ill health. He may owe the College something, but, if he does, it is amply secured. I am satisfied that he would not do the College the slightest injury. Dr. Barck, the Treasurer, has also resigned as Treasurer, but that was because he had so much work that he could not fill the position. Dr. A. H. Ohmann Dumesnil succeeds Dr. Taylor as Professor of Dermatology.

"Dr. Casey Witherspoon has been elected Professor of Genito Urinary Surgery, and Dr. Louis Bauer honorary Professor of Surgery."

A Certain Sign of Death.—Mons. W. Necati (*La France Medicale; Medical and Surgical Reporter*) reports to the Academie des Sciences the results of his experiments with a new instrument he has had constructed for the purpose of testing the ocular tensions. He has found that during life, tension varies from 14 gram. to 25 gram. Within half an hour after death, this tension has fallen from 1 gram to 3 gram., and in two hours after death has become complete. As soon as the pulse ceases, the ocular tension falls, and steadily declines for two hours. An eye that has been enucleated and replaced in the orbit acts in the same way. By the time the loss of tension is complete, the body must have been dead at least two hours.

The Goddess of Small-Pox.—A striking account of the difficulties attending on the attempt to extend the practice of vaccination in India is given by Surgeon-General Sir William Moore. The chief obstacle is superstitious prejudice. The population firmly believe variola to be matter under the control of the goddess Mata, in whose honor temples abound and fairs are held, where thousands of women and children attend with offerings. The declivities of most of the

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numerous conical hills present either a reddened stone or temple devoted to Mata, with most probably an attendant Brahmin priest. Nearly every village has its goddess of small pox in the immediate locality, and in many places a large piece of ground is esteemed holy and dedicated to Mata. The people do not pray to escape the affection, unless in seasons when it occurs with more than ordinary violence. They do, however, petition for a mild visitation. But even the loss of an eye does not appear to be viewed as a very serious calamity. "Is there not another eye sufficient for all purposes?" questioned one of these stoical philosophers. "If it were the leg or hand it would be different; but an eye is immaterial."—*Med. Record.*

Indiana State Medical Society.—At the recent meeting of the Indiana State Medical Society, May 17 and 18, 1894, at Indianapolis, the following officers were elected for the ensuing year:

President—E. S. Elder, Indianapolis.
Vice-President—C S. Bond, Richmond.
Secretary—F. C. Woodburn, Indianapolis.
Assistant Secretary—K. K Wheelock, Fort Wayne.
Treasurer—J. O. Stillson, Indianapolis

The American Dentist is credited with many wonderful devices, but a London correspondent of the *British Medical Journal* has discovered an especially new and offensive invention. He says: "Some Americans are introducing here the practice of inserting diamonds for vulgar display into the front teeth. It is surely enough that our sense of decency and propriety should be so often shocked by unsightly gold crowns and fillings, wishout being further offended by this new atrocity. I believe it has only just started here, and this, therefore, is the time to denounce it, and my excuse for troubling you."—*Medical Record.*

American Physicians and Surgeons.—The Triennial Congress of American Physicians and Surgeons closed its third meeting in Washington, D. C., June 1. The meeting was opened on Tuesday afternoon, May 19, with an address by Dr. Landon Carter Gray and the program embraced papers on "Morphology as a Factor in the Study of Disease;" "Sewer Gas;" "Distribution and Control of Leprosy in the United States;" "Nephritis in Its Surgical Aspects;" "The Influence of Animal Experimentation on Medical Science" (by Dr. Alfred L. Loomis, President of the Congress); "The Surgery of the Accessories of the Nose;" "The Influence of Infectious Processes on the Nervous System. Delegates were present from the American Surgical Association, American Climatological Association, Association of American Physicians, American Association of Genito-Urinary Surgeons, American Orthopedic Association, American Physiological Society, Association of American Anatomists, American Pediatric Society, American Ophthalmological Society, American Otological Society, American Neurological Association, American Gynecological Society, American Dermatological Association, and the American Laryngological Association.

℞ Vesical Irritation
Tinct Hyoscyami ℥ss
Elix Nitrous q.s. ad ℥vi
Sig. Dessertspoonful
three or four times
daily

FORMULÆ

Insomnia.

℞ Neurosine, - - - - - - - - one bottle.
Ssg. One to two teaspoonsful.

Insect Bites.

℞ Aq. ammoniæ, - - - - - - - - - ℥j.
Acid. carbolic, - - - - - - - - drops,v.
M.
Sig. Apply externally.

℞ Iodoform, - - - - - - - - - ʒj.
Collodii, - - - - - - - - - fʒj.
M.
Sig. Apply with brush locally.

℞ Tinct. iodi, - - - - - - - - - ʒj.
Sennine, - - - - - - - - - gr.x.
Aq. ammoniæ. - - - - - - - - ℥j.
M.
Sig. Apply freely.

Colica Flatulenta.

℞ Extr. belladonnæ, - - - - - - - - gr.ij.
Aq. amygdal. amar., - - - - - - fʒss.
M.
Sig. Ten to twenty drops every three to four hours.

Chronic Diarrhea.

℞ Subgallate of bismuth, - - - - - - ʒj.
Opii, - - - - - - - - - gr.v.
Sacch. alb., - - - - - - - - ʒss.
Ol. menth. pip., - - - - - - - drop,j.
M. F. pulv. Divide in dos No. x.
Sig. One powder three times a day.

Spermatorrhea.

℞ Neurosine, - - - - - - one bottle.
Sig. Teaspoonful at bed time.

Corns.

℞ Acid salicylic, - - - - - - - - ʒj.
Emplastr. saponat., - - - - - - ʒiij.
M. f. empl.
Sig. Apply on lint.

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VETERINARY

The many readers of the MEDICAL REVIEW are invited to avail themselves of the Veterinary Department now open to them in our pages. Questions and all inquiries pertaining to lameness and diseases of horses and other domestic animals will be discussed and replied to as fully and as satisfactorily as the nature of the question will permit. To insure this, a clear and concise history of the case is essential, in order either to make a correct diagnosis or to give a satisfactory reply.—[ED.

The Comparative Physiology of Menstruation.

BY ALFRED WILTSHIRE, M.D., F.R.C P., LONDON.

(*Veterinary Journal.*)

[CONTINUED].

The influence of demestication upon the fertility of animals amenable thereto is most instructive. The total productiveness of most of them is enormously increased thereby. The continuous and regular supply of food, artificial warmth, selection, care and culture bestowed upon them, greatly enhance their productiveness. Puberty not only arrives earlier, but a sustained power of reproduction is acquired; more offspring can be bred and these again bred earlier. The manifestations of "heat," therefore instead of being confined to seasonal appearances, are much more frequently renewed, resembling be it noted, those of women; and whereby celibacy is imposed upon the females, as it is for commercial purposes in the case of cows, for example, of the segregation from the male, the periods of of heat may be observed to recur with remarkable regularity in cows, usually every three weeks. Domesticity then, increase the fertility of domesticable creatures; while seclusion from the male, either from economic purposes or through captivity, permits the repeated exhibition in the female of the phenomena of the rut or heat, whatever they may be.

Prolonged civilization has done for women what domestication has done for the lower animals; it has augmented their power of reproduction, made them more prolific and rendered more frequent the manifestations of that aptitude, hence the sustained repetitions of estromenstruation. Darwin ("Descent of Man," p. 45) has remarked that savages appear to be less prolific than civilized people. Bischoff has truly said: "If women menstruated only once or twice a year, it would long since have been remarked that such was the only time when conception was possible; menstruation would long ago have been recognized as perfectly analogous to 'the heat' in animals, even though the most essential element of it, the maturation of ova, had not been discovered." He also says: "The ova form and become mature, and are extracted from the maternal organism, usually at fixed periods, having regularly recurring intervals." This is the period of "heat" in animals and "menstruation" in human females. The analogies existing between menstruation in women and estruation in the lower animals may be shown. In both there is a special aptitude for conception at or near these times, through women are more highly endowed, inasmuch as they may conceive at epochs somewhat remote from their "period." The lower females will rarely permit intercourse except at periods of heat, which in ruminants, at any rate, are of brief duration; indeed the males seldom attempt it during the intervals. This is unlike the practice of human beings. In both it has been shown the germ cells are then ready for impregnation; though here again woman enjoys the advantage implied above, in that ovules may be produced at times other than these of "the heat," that, however, being admittedly the usual and ordinary epoch for their ripening and dehiscence. Propinquity to the male, without access to him, is known to hasten ovulation in birds; and in the human female repeated sexual indulgence is known to stimulate the rupture, if no more, of Graafian follicles. One should not lose sight, however of the superior evolution of the sexual system in the higher creatures, for this may not be without influence upon the process. It can hardly be maintained that sustained ovulation is the exclusive appenage of the higher mammals, but there can be little doubt that the organic superiority of the highest enables them to coordinate more readily the advantages of their endowments and environments may chance to afford; their sexual superiority is correlated with their mental, as with their general organic superiority.

Bischoff says.—In them (animals) the period of "heat" either occurs so seldom, once or twice a year, or when repeated more frequently, as in the cow, the sheep, the pig, etc., it is so interfered with by odinary circumstances, such as our economical arrangements and the like, that the animals are either immediately impregnated, or the recurrence of maturation of ova is obstructed and stopped by the secretion of milk. That analogy, otherwise so striking, with one of our commonest domestic animals, the cow, should have remained for the most part unnoticed, is no doubt to be attributed to some of the above circumstances.

[TO BE CONTINUED.]

MOUNTAIN LAKE PARK.—On the main line of the Baltimore & Ohio Railroad; on the crest of the Alleghenies, 3,000 feet above tide water, is one of the most charming and healthful resorts and contains 800 acres of forest and glade The temperature is delightful and hay fever and malaria are unknown. The Park is lighted by electricity. The hotels and boarding houses are first-class; board from $7 to $15 per week. Furnished cottages or rooms at reasonable rates. All Baltimore & Ohio trains stop at the Park. Write to L. A. Rudisill, Superintendent, Mountain Lake Park, Md., in regard to hotels, etc., and for information as to time of trains, rates of fare, etc., call on any agent of the Baltimore and Ohio Southwestern Railway, or address O. P. McCarty, General Passenger Agent, St. Louis, Mo. 28

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